

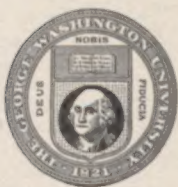
THE
GEORGE
WASHINGTON
UNIVERSITY

CATALOGUE

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THE SUMMER SESSIONS
1949

THE BOWMAN COLLECTION

1949

THE
GEORGE
WASHINGTON
UNIVERSITY
BULLETIN

VOL. XLVIII

No. 2

THE SUMMER SESSIONS

WASHINGTON, D. C.

PUBLISHED IN APRIL
MCMXLIX

BY THE UNIVERSITY

THE UNIVERSITY

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THE UNIVERSITY

HISTORY AND ORGANIZATION

The idea of a university in the Capital of the Nation was sponsored by George Washington, who during his public life urged the establishment of such an institution and who in his will left fifty shares of stock in the Potomac (Canal) Company for the endowment of a university to be established in the District of Columbia "to which the youth of fortune and talents from all parts thereof might be sent for the completion of their Education in all the branches of polite literature;—in arts and Sciences,—in acquiring knowledge in the principles of Politics & good Government".

Columbian College in the District of Columbia was chartered by an act of Congress of February 9, 1821. In 1873 the name was changed to "Columbian University" and in 1904 to "The George Washington University".

The University as it is now organized consists of the Junior College, comprising the work of the freshman and sophomore years; Columbian College, the senior college of liberal arts, which offers work leading to the Bachelor's and Master's degrees; the Graduate Council, which offers work leading to the degree of Doctor of Philosophy; the professional schools, including Medicine, Law, Engineering, Pharmacy, Education, and Government; the Division of University Students, which leads to no degree but makes the work of the University accessible to the mature student; and the Division of Special Students, in which are registered students who wish to work toward degrees but who lack the qualifications for admission to degree-granting schools or colleges.

ACADEMIC STATUS

The George Washington University is on the approved list of the Association of American Universities, the standard accrediting body for the United States. This fact not only assures to students the academic standards of this accrediting body, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women.

The Law School is a charter member of the Association of American Law Schools and is approved by the Council of Legal Education of the American Bar Association. The School of Medicine is a member of the

Association of American Medical Colleges, and is one of the medical colleges which have been designated continuously as "class A" by the American Medical Association. The School of Pharmacy is accredited by the American Council on Pharmaceutical Education and is a member of the American Association of Colleges of Pharmacy. The School of Engineering is on the accredited list of the Engineers' Council for Professional Development.

LOCATION

The George Washington University is in downtown Washington, four blocks west of the White House and east of the Potomac River with its extensive parkway. Within a few blocks are the buildings housing the offices of many of the departments of the Government, including the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Navy, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Department of Labor. The Corcoran Gallery of Art, the Pan American Union Building, and the National Academy of Sciences are also near by, and the Capitol and the Library of Congress are readily accessible.

EDUCATIONAL FACILITIES

Buildings, grounds, and equipment of the University are valued at over \$12,000,000. The buildings of the colleges, schools, and divisions offering Summer Sessions work are in the vicinity of Twenty-first and G Streets NW.

The University Library.—The University Library contains more than 170,000 volumes, and with the exception of the law and medical collections is housed in the Library Building.

Regulations governing the use of the library, the circulation of books, and the use of reserve books and periodicals are available at the service desks of the Library.

OTHER LIBRARY FACILITIES IN WASHINGTON

The student has access also to the Library of Congress, the Public Library of the District of Columbia and its branches, the Library of the Carnegie Endowment for International Peace, the Library of the Pan American Union, the Library of the Bureau of Railway Economics, the Library of the United States Department of Agriculture, the Library of the United States Office of Education, the Army Medical Library, the Library of the Smithsonian Institution, and many other great special collections of the government departments.

RESEARCH FACILITIES OF WASHINGTON

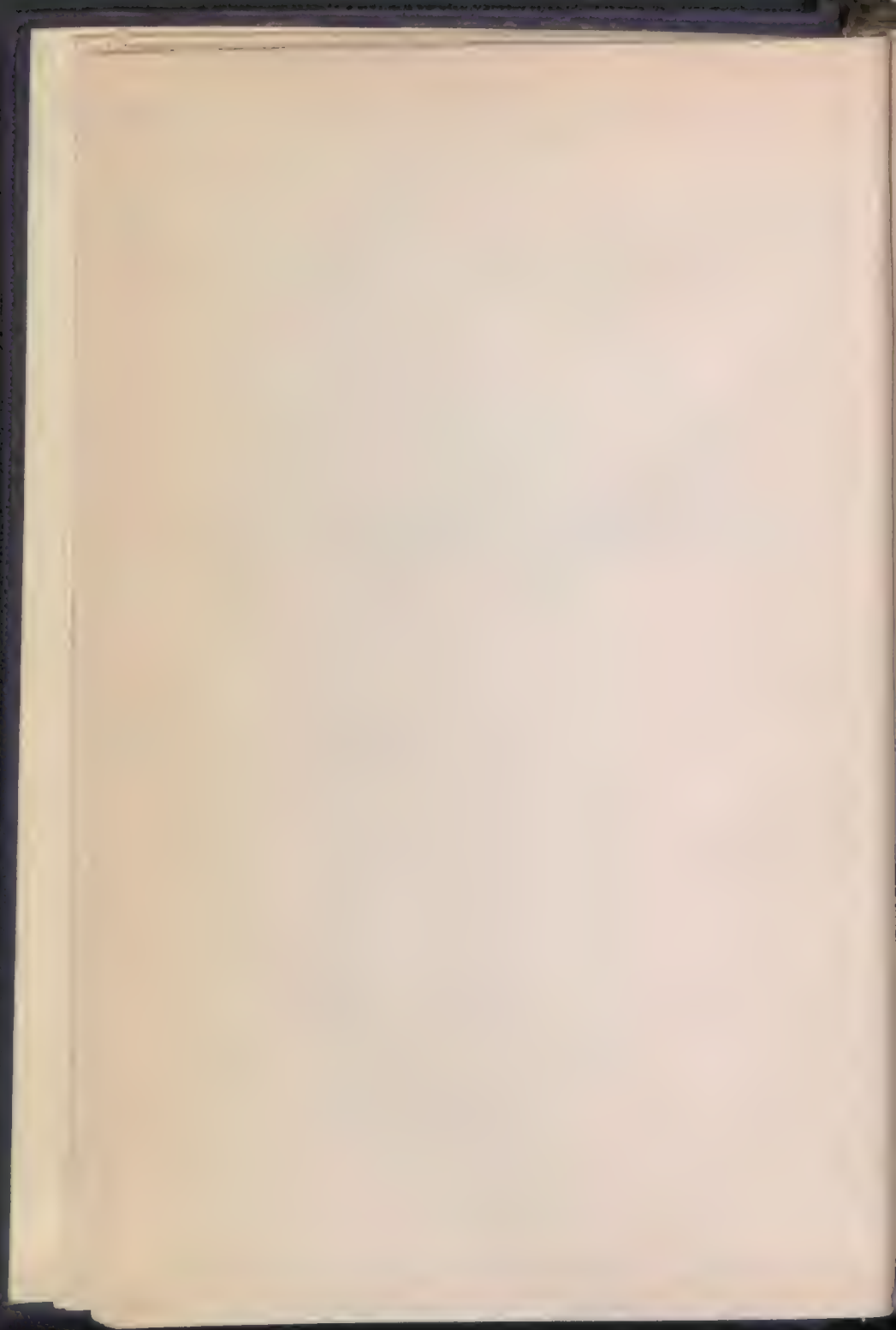
The arrangement of the summer schedule of classes permits the full-time student to avail himself of the opportunity to study, at first hand, the working of the Federal Government and so to form a background for intelligent and useful citizenship.

In the departmental libraries of the Federal Government are a multitude of reports made by eminent specialists in all fields of science on the results of study and research in the bureaus, experimental stations, laboratories, museums, and observatories of the Nation.

In addition to the governmental collection the student has access to the research facilities of such scientific and educational groups, whose headquarters are situated in Washington, as the Carnegie Institution, the American Council on Education, the American Council of Learned Societies, the National Academy of Sciences, the National Research Council, the National Education Association, and the National Geographic Society.

THE SUMMER SESSIONS

1949



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William Franklin Jewell III, M.S., *Assistant Professor of Geography*

Arlin Rex Johnson, Ph.D., *Professorial Lecturer on Marketing*

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 Joseph Buel Johnson, Ed.D., *Lecturer in Education*
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 Otakar Wenceslaus Kabelac, M.C.E., *Assistant Professor of Mechanical Engineering*

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 Ralph Dale Kennedy, Ph.D., *Professor of Accounting and Business Administration*

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 Wolfram Karl Legner, Ph.D., *Associate Professor of German*
 Edwin Lewis, M.B.A., *Lecturer on Accounting*

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 Colin Mackenzie Mackall, Ph.D., *Professor of Chemistry*
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 Frederick Burton Tuttle, Ph.D., *Professorial Lecturer in Education*
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 Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*
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Francis Bernard Ward, B.S., C.P.A., *Lecturer on Accounting*
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Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*
Kennett William Yeager, Ph.D., *Lecturer in Sociology*
Lawson Edwin Yocum, Ph.D., *Professor of Botany*
Donnell Brooks Young, Ph.D., *Professor of Zoology*

FEES AND FINANCIAL REGULATIONS

By authorization of the Board of Trustees, the following fees have been adopted:

TUITION FEES

For each credit hour.....	\$12.00
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ADDITIONAL COURSE FEES

In certain courses additional fees such as laboratory and material fees are charged as indicated in the course descriptions. These fees are due with the tuition fee for the course. Breakage of apparatus is charged against the individual student. When breakage is in excess of the normal amount provided for in the laboratory fee, the individual student will be required to pay such additional charges as are determined by the department concerned.

GRADUATION FEES

Wherein the degrees of Associate in Arts is granted.....	10.00
Wherein a degree other than the Associate in Arts degree is granted	20.00

FEE FOR BINDING MASTER'S THESIS.....	4.00
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SPECIAL FEES

Application fee, charged all new applicants for admission, non-refundable	3.00
Aptitude test fee.....	1.00
Late-registration fee, for failure to register within the designated period	5.00
Service fee, for late payment of tuition (see "Payment of Fees")..	1.00
Reinstatement fee, for reinstatement after suspension for delinquency in fees	5.00
For each examination to qualify for advanced standing, and for each special examination	5.00
Laboratory checkout fee, charged all students in chemistry and pharmacy courses who fail to check out of the laboratory by the time set by the instructor.....	2.00
Withdrawal fee, charged all students who preregister and withdraw prior to the day of regular registration.....	5.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of three certified transcripts of record, if and when desired; (2) the use of the University library facilities, except as otherwise designated; (3) medical and hospital services described below. These privileges, with the exception of the issuance of transcripts, cease when the student withdraws or is dismissed from the University.

Medical and Hospital Services.—These services include: (1) three visits by the University physician or surgeon, office or residence (District of Columbia) in any one illness, exclusive of a specialist, surgical opera-

tion, laboratory, or X-ray examinations; (2) hospitalization, including board, medicine, and nursing in the University Hospital for not more than one week during a school year—the necessity to be determined by the Director of Health Administration. The duration of hospitalization period (maximum, one week) is also to be determined by the Director of Health Administration.

The student is allowed, if he so desires, to engage physicians and nurses of his own choice, but when he does so he will be responsible for the fees charged.

This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of tuition fees.

PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each session are due in advance at the time of preregistration in the case of former students; at the time of registration in the case of new students.

In exceptional cases, subject to the approval of the Comptroller, the student may sign a contract for the fees for courses which extend throughout one unbroken fifteen-week term, permitting two payments as follows: one-half at the time of registration and one-half on July 29.* The student whose fees are paid between July 30 and August 5 is charged a service fee of \$1.* A student who fails to make this payment by August 5 will be automatically suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5. A suspended student may not be reinstated for the session after one week from the date of suspension. Applications for reinstatement are to be made to the dean of the college, school, or division in which the student is registered.

An auditor pays all fees chargeable to the student registered for credit except the late-registration fee.

WITHDRAWALS AND REFUNDS

Registrations, except for courses which extend throughout one unbroken term of fifteen weeks, are for the session, and no refunds or rebates are allowed, unless the registration is in advance and the course is dropped before the day of registration for the session involved.

A student who preregisters and withdraws prior to the date of regular registration will be charged a withdrawal fee of \$5.

If notice of withdrawal or change in schedule involving courses which extend over an unbroken term of fifteen weeks is received by the dean

* See footnote on page 20.

of the college, school, or division concerned on or before July 26,* the second payment will be cancelled or adjusted. Notice to an instructor is not acceptable notice.

In no case will any part of the initial payment of tuition be refunded because of nonattendance upon classes.

Payments apply only to the session or term for which registration charges are incurred and in no case will these payments be credited to another session or term.

Any student in chemistry who fails to check out of the laboratory on or before the date set by the instructor, unless excused by the instructor, will be charged a laboratory check-out fee of \$2. A student dropping a course before the end of the session or term must check out of the laboratory at the next scheduled laboratory period.

No permission to withdraw and no certificate for work done will be given a student who has not a clear financial record.

UNIVERSITY REGULATIONS

Students in the Summer Sessions are subject to, and are expected to familiarize themselves with, the University regulations as stated in the general catalogue.

Academic Credit.—The Summer Sessions are an integral part of the University. Academic credit for completed work will be given toward the appropriate degrees in the various colleges and schools of the University in accordance with their separate regulations and requirements.

Residence.—Summer Sessions work may be counted in residence but the candidate for a degree must satisfy the residence requirements of the school or college concerned as stated in the general catalogue.

Amount of Work.—No full-time student may take more than nine credit hours of work during either session; no employed student, more than six hours. By carrying work in both sessions, a full-time student may earn as much as eighteen credit hours; an employed student, twelve hours.

The right is reserved to drop any student whenever, in the interest of the student or the University, the Faculty deems it advisable to do so.

The University is not responsible for the loss of personal property belonging to a student.

* Students in the Law School registered for courses in the unbroken sixteen-week term may pay their second half of tuition on August 2. The student whose fees are paid between August 3 and August 10 is charged a service fee of \$1. A student who fails to make this payment by August 10 will be suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5. If notice of withdrawal is received by the Dean of the Law School on or before July 29 the second payment will be cancelled.

The University and its various colleges, schools, and divisions reserve the right to modify or change the requirements, rules, and fees of the University. Such regulations shall go into force whenever the proper authorities may determine and shall apply to every student of the University.

Detailed information concerning admission; scholarship requirements of the individual colleges, schools, and divisions; and requirements for degrees may be obtained from the general catalogue, which is available on request at the Office of the Director of Admissions.

STUDENT LIFE

SOCIAL AND RECREATIONAL PROGRAM OF THE UNIVERSITY

Provision is made for the social and recreational side of student life during the Summer Sessions. The Annual Summer Sessions Party opens the season and is followed by Friday Evening Starlight Dances on the Lisner Terrace. Teas are arranged so that new students will have a chance to become acquainted with their fellow students.

The city of Washington affords a variety of recreational opportunities. Wooded trails for hiking, riding, and picnicking wind through Rock Creek Park.

The National Symphony Orchestra presents a series of concerts at the Potomac Watergate nearby.

LIVING ACCOMMODATIONS

Women Students.—Women students under twenty-one years of age who are enrolled for six or more credit hours a session of academic work in the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In the Hattie M. Strong Residence Hall for Women, single rooms are \$35 a month; double rooms are \$28 a month a person. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women, in Columbian House.

Men Students.—Welling Hall provides double room facilities for 102 students. Dining facilities are available to all residents of this dormitory. Rooms rent for \$24 a month a person. Single and double rooms are provided for 203 students in Draper and Bradley Halls. These are temporary dormitories and residence is restricted to veterans of World War II who are enrolled for a minimum of six credit hours of academic work in the University during a single session of the summer term.

Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married veteran students and their families, subject to the same requirements for tenancy as above. Application forms for room reservation may be obtained from the Director of Activities for Men, Building R, 2027 H Street NW.

Information concerning private rooming and boarding facilities near the University, for women students twenty-one years of age or older and for men students, may be obtained at the offices of the Director of Activities for Women and the Director of Activities for Men, respectively. The reservation of rooms in private houses must be made by students.

VETERANS EDUCATION

Veterans who wish advice concerning the educational program of the University or the procedure for securing the educational benefits of the GI Bill should consult the Veterans Office, Building Q.

AUTHORIZATION FROM THE VETERANS ADMINISTRATION

Prior to registration the veteran should obtain from the Regional Office of the Veterans Administration, 1825 H Street NW., a Certificate of Entitlement or, if entitled to vocational rehabilitation, a letter approving training under Public Law 16 for presentation to the Veterans Office of the University at the time of registration. A photostatic copy of separation papers must accompany the application for certification.

ADMISSION

For veterans who are deficient in their regular requirements for admission, but who have been found by educational and psychological tests to be able to undertake college work, the University has made certain modifications in the entrance requirements.

Advanced Standing.—To receive credit for service schools, veterans should submit to the Director of Admissions photostatic copies of service records indicating courses successfully completed with sufficient identification of the course to enable the Admissions Office to locate it in the Guide to the Evaluation of Educational Experience in the Armed Forces.

THE COLLEGES, SCHOOLS, AND DIVISIONS

THE COLLEGES, SCHOOLS, AND DIVISIONS

Information concerning specific requirements for degrees is omitted from this bulletin. For such information, the student is referred to the general catalogue.

THE JUNIOR COLLEGE

The Junior College includes the first two years of college work. Its curricula are intended to continue the studies of a general cultural nature begun in secondary school, and to lay a foundation for the more specialized work which is to follow.

The Junior College also provides the preprofessional work required for admission to the schools of Pharmacy, Education, and Government, and the first two years of the preprofessional work required for admission to the schools of Medicine and Law.

In addition it provides a two-year terminal curriculum in Secretarial Studies and a two-year terminal curriculum in Accounting for students who wish strictly vocational training in these subjects.

THE DEGREE OF ASSOCIATE IN ARTS

The Junior College offers work leading to the degree of Associate in Arts.

ENTRANCE REQUIREMENTS

An acceptable certificate of graduation from an accredited secondary school is required. The acceptability of the certificate depends upon the student's character and the quality of his work.

COLUMBIAN COLLEGE

Columbian College, the senior college of liberal arts and sciences, comprises the work of the junior and senior years and the Master of Arts and Master of Science disciplines.

THE DEGREES

Columbian College offers work leading to the following degrees: Bachelor of Arts, Bachelor of Science, Master of Arts, and Master of Science. In cooperation with the School of Medicine, Columbian College offers work leading to the combined degrees of Bachelor of Arts and Doctor of Medicine.

UNDERGRADUATE MAJORS

Curricula leading to the degree of Bachelor of Arts are available in the following major fields:

American Thought and Civilization	Mathematics
Art:	Philosophy
Appreciation	Physics
Drawing and Painting	Political Science
Biology	Psychology
Botany	Religion
Chemistry	Sociology
Economics	Spanish American Literature
English Literature	Spanish Literature
French Literature	Speech:
Geography	Public Speaking
Germanic Languages and Literatures	Theatre
History	Speech Rehabilitation
International Relations	Statistics
Latin American Civilization and Culture	Zoology

Curricula leading to the degree of Bachelor of Science are available in the following major fields:

Biology	Physics
Botany	Statistics
Chemistry	Zoology
Mathematics	

GRADUATE FIELDS

Graduate work leading to the degree of Master of Arts or Master of Science is offered in the following fields:

American Literary and Cultural	International Relations
History	Latin American Civilization and Culture
Bacteriology	Latin American Economics
Biochemistry	Mathematics
Biology	Philosophy
Botany	Physics
Chemistry	Physiology
Economics	Political Science
English and American Literature	Psychology
English Literature	Spanish American Literature
French Literature	Spanish Literature
Germanic Languages and Literatures	Statistics
History	Zoology

In addition, programs can be arranged in combined fields subject to the approval of the division or divisions concerned.

ENTRANCE REQUIREMENTS

For the Bachelor's degrees, the degree of Associate in Arts based on the appropriate curriculum in the Junior College, or the equivalent, is required. Scholarship requirements may be somewhat higher than those

for graduation from the Junior College. For the Master's degrees, an approved Bachelor's degree from an accredited institution and a transcript of studies previously pursued, showing appropriate distribution of courses and a superior quality of work in the major field, are required.

THE GRADUATE COUNCIL

The Graduate Council offers work leading only to the degree of Doctor of Philosophy. Because the basis for work under the Graduate Council is primarily creative research, regular study in specific courses is considered quite incidental and is therefore not emphasized in connection with the curricula of the Summer Sessions. A student wishing to work under the disciplines of the Graduate Council will consult the Chairman of the Graduate Council for information concerning credentials and candidacy.

A pamphlet describing details of the Graduate Council program, together with a current list of fields of research offered by the Council, will be sent upon request to the Office of the Graduate Council.

THE LAW SCHOOL

The Law School offers work leading to the following degrees: Bachelor of Laws, Juris Doctor, Master of Laws, Master of Comparative Law, and Doctor of Juridical Science.

ENTRANCE REQUIREMENTS

For the Degrees of Bachelor of Laws and Juris Doctor.†*—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university is required.

*For the Degree of Master of Laws.**—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university and the degree of Bachelor of Laws from an approved law school are required.

For the Degree of Master of Comparative Law.—The following are required: (1) the successful completion of and graduation from a course in arts, philosophy, letters or sciences, equivalent to graduation from a gymnasium, lycee, or lyceo (junior college); and (2) graduation in law from a recognized foreign university where training was in civil law.

* No less than one-half the work necessary for graduation from an approved college or university will be accepted as satisfying the admission requirements for (1) regular students of the University in continuous attendance since the 1947 winter term registration, (2) applicants for the degree of Bachelor of Laws or Master of Laws who have completed not less than 30 months of continuous service in the armed forces of the United States during World War II and who enter the Law School prior to the Fall Term of 1949.

† A Bachelor's degree which includes credits for work done in this or any other Law School will not satisfy the admission requirement for this degree. All pre-legal work must be of a quality and distribution acceptable to the University.

For the Degree of Doctor of Juridical Science.—The following are required: (1) the degree of Juris Doctor from this Law School; or (2) the degree of Bachelor of Arts from an approved college, the degree of Bachelor of Laws or the equivalent, earned with high rank, from an approved law school, outstanding capacity for scholarly work in the field of law, and acceptance as a candidate by the Committee on Graduate Students of the Law School.

Unclassified Students.—A person eligible for admission to regular standing but not a candidate for a degree may, at the discretion of the Dean, be admitted as an unclassified student.

A person who is in good standing as a candidate for the degree in another approved law school may, at the discretion of the Dean, be admitted as an unclassified student. Work taken by an unclassified student will not be accepted for credit toward a degree at this Law School.

THE SCHOOL OF ENGINEERING

THE DEGREES

The School of Engineering offers work leading to the following degrees: Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, and Bachelor of Science in Engineering.

ENTRANCE REQUIREMENTS

An acceptable certificate of graduation from an accredited secondary school, or the satisfactory passing of College Entrance Board examinations in secondary school subjects selected with the approval of the Director of Admissions is required.

Nine and one-half of the fifteen units required for entrance must be distributed as follows: three in English, two in algebra, one in plane geometry, one-half in plane trigonometry, one in physics or chemistry, and two in one foreign language or history. A graduate of an approved high school who does not offer for admission the particular subjects required for the engineering curriculum, but who does present not less than fifteen acceptable units, may be admitted on condition, if such deficiency in the distribution of units does not exceed two units.

THE SCHOOL OF EDUCATION

The School of Education prepares teachers, supervisors, and administrators for educational service and offers opportunities to teachers of experience to extend their education. The schedule of courses is arranged to meet the needs of employed students as well as those able to devote full time to their studies. It offers both graduate and undergraduate work.

THE DEGREES

The School of Education offers work leading to the following degrees: Bachelor of Arts in Education, Bachelor of Science in Home Economics, Bachelor of Science in Physical Education, Master of Arts in Education, and Doctor of Education.

ENTRANCE REQUIREMENTS

For the Bachelor's Degrees.—The satisfactory completion of two years of approved college work, or graduation from an approved two-year normal school, or the equivalent, is required.

For the Master's Degree.—A Bachelor's degree from an accredited college, or the equivalent, and the approval of the Committee on Admissions and Advanced Standing are required.

For the Doctor's Degree.—A Master's degree from an accredited college, or the equivalent, and the approval of the Faculty of the School of Education are required.

THE SCHOOL OF GOVERNMENT

THE DEGREES

The School of Government offers work leading to the following degrees: Bachelor of Arts in Government with a major in Foreign Affairs, Statistics, Accounting, and Business Administration; and Master of Arts in these fields as well as in Government and Economic Policy, Public Administration, Personnel Administration, and Vocational Counseling.

ENTRANCE REQUIREMENTS

For the Bachelor's Degree.—The satisfactory completion of two years of approved college work is required for admission to study for this degree.

For the Master's Degree.—An approved Bachelor's degree based on the proper training for the field selected by the student for graduate study is required.

FOREIGN SERVICE REVIEW COURSE

The University will again offer a twelve-week non-credit Review Course, June 13 to September 2, in preparation for the written Foreign Service Examination to be given by the Department of State on September 12-15, 1949. To be eligible to take this examination, the applicant (1) shall be over 21 and under 30 years of age as of July 1, 1949; (2) shall have been a citizen of the United States for at least 10

years; (3) shall not be married to an alien; (4) shall have an adequate knowledge of at least one foreign language.

Enrollment in the Foreign Service Review Course is limited and admission is on a competitive basis. Applicants must have a Bachelor's degree in the field of the social sciences and a superior academic record. Only in exceptional cases is admission granted to college seniors and graduates in other fields.

Application for admission must be received by May 20, 1949.

The cost of this course, including library and medical facilities and other privileges of the University, is \$216, which in the case of veterans is covered by the educational benefits of the GI Bill.

For further information and application forms, write to the Director, Foreign Service Review Course, School of Government.

THE DIVISION OF UNIVERSITY STUDENTS

The Division of University Students makes the work of the University, in its several colleges and schools, accessible to students 21 years of age or over who are not working toward a degree in this University.

Candidates for degrees in other colleges and universities attending the Summer Sessions of the University are registered in the Division of University Students.

Adequate preparation to undertake the desired courses is required.

THE DIVISION OF SPECIAL STUDENTS

This is a non degree-granting division of the University in which the Director of Admissions may authorize the placement of students in the process of making up entrance deficiencies to degree-granting colleges and schools of the University.

Complete credentials must be submitted and evaluated before a program of studies is approved.

COURSES OF INSTRUCTION

COURSES OF INSTRUCTION

EXPLANATION OF COURSE NUMBERS

An odd number preceding the name of the course indicates that the course is offered in the first session; an even number, that it is offered in the second session. The letter "x" following an odd number (e.g., 5x) indicates that the course, normally given in the first session, is given in the second session. The letter "x" following an even number (e.g., 6x) indicates that the course, normally given in the second session, is given in the first session. The letter "S" following the number of a course indicates that the course is given in one term of fifteen weeks.

First-group courses.—Courses numbered from 1 to 100, are planned for the student in the freshman or sophomore year. With the approval of the adviser and the dean, they may also be taken by a junior or senior. In certain instances, they may be taken by a graduate student to make up undergraduate deficiencies or as prerequisite to advanced courses, but they may not be credited toward a higher degree.

Second-group courses.—Courses numbered from 101 to 200, are planned for the student in the junior or senior year. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the dean responsible for the graduate work and by the officer of instruction, and when the completion of additional work has been certified by the officer of instruction.

Third-group courses.—Courses numbered from 201 to 300, are planned primarily for the graduate student. They are open, with the approval of the officer of instruction, to the qualified senior; they are not open to the Junior College student.

INDICATION OF THE AMOUNT OF CREDIT

The number of hours of credit given for the satisfactory completion of a course is in most cases indicated in parentheses after the name of the course.

The University reserves the right to change or withdraw any of the courses of instruction listed.

BIOLOGY*

FIRST SESSION

1 Survey in Biology (3)

Bowman

A review of the plant and animal kingdoms with emphasis upon the interdependence of living things. Material fee, \$4.50. Lecture—Tues. and Thurs., 9:10 A.M.; laboratory—Tues. and Thurs., 10:10 to 12:00 A.M.; field trips—Wed. and Fri., 9:10 to 12:00 A.M.

115 Cytology (3)

Bowman

Study of plant and animal cells and their components, including the chromosomes and their role in heredity, with training in the preparation of materials for study. Material fee, \$6. Prerequisite: one year of college work in Biology, Botany, or Zoology. Lecture—Mon. and Wed., 2:10 P.M.; laboratory—Mon. and Wed., 3:10 to 5:00 P.M. and Tues. and Thurs., 2:10 to 4:00 P.M.

127 Genetics (3)

Cook

A one-term lecture course in which the general principles are illustrated with specific examples of inheritance in plants and animals, including man. Prerequisite: one year of college work in Biology, Botany, or Zoology. 8:00 A.M.

211 Research in Cytology

Bowman

Hours and credits to be arranged.

299 Thesis (3)

Bowman

SECOND SESSION

2 Survey in Biology (3)

Munson

A review of the fields of evolution and heredity, public health, and conservation of natural resources. Material fee, \$4.50. Lecture—Tues. and Thurs., 9:10 A.M.; laboratory—Tues. and Thurs., 10:10 to 12:00 A.M.; field trip—Wed. and Fri., 9:10 to 12:00 A.M.

BOTANY†

FIRST SESSION

1 Structure and Function of the Flowering Plant § (3)

Yocum

The typical plant as a working mechanism, with the emphasis on the general biological significance of plant physiology. Material fee, \$4.50. Section A: lecture—Tues. through Fri., 9:10 A.M.; laboratory—Tues. and Thurs., 2:10 to 4:00 P.M. Section B: lecture—Tues. through Fri., 11:10 A.M.; laboratory—Tues. through Fri., 12:10 to 1:00 P.M.

105 Field Botany (3)

Field trips, laboratory and classroom study of the local flora. Prerequisite: Botany 1 and 2 or Biology 1-2. Lecture—Thurs., 6:10 P.M. and Sat., 1:10 P.M.; laboratory—Thurs., 7:10 to 9:00 P.M. and Sat., 2:10 to 4:00 P.M.; trip—Sat., 9:10 to 12:00 A.M.

* See also the departments of Botany and Zoology.

† See also the departments of Biology and Zoology.

§ Botany 1 and 2 are prerequisite to all other courses in Botany.

295 *Research* The Staff
Hours and credits to be arranged.

299 *Thesis* (3) The Staff

SECOND SESSION

2 *Survey of the Plant Kingdom* * (3)
Study of the different kinds of plants with emphasis on the evolution of the plant kingdom; practice in identifying flowering plants. Material fee, \$4.50. Section A: lecture—Tues. through Fri., 9:10 A.M.; laboratory—Tues. and Thurs., 2:10 to 4:00 P.M. Section B: lecture—Tues. through Fri., 11:10 A.M.; laboratory—Tues. through Fri., 12:10 to 1:00 P.M.

296 *Research* The Staff
Hours and credits to be arranged.

300 *Thesis* (3) The Staff

BUSINESS ADMINISTRATION

FIRST SESSION

51 *Introductory Accounting* (3) The Staff
Principles and procedures of double-entry accounting with special reference to single proprietorships. Section A: 9:10 A.M.; section B: 7:10 P.M.

52x *Introductory Accounting* (3) The Staff
Accounting principles applied to partnerships and corporations; the valuation problem. Prerequisite: Business Administration 51. 6:10 P.M.

101 *Business Organization and Combination* (3) Ward
Simple and interrelated forms of business enterprise and their control by government. 6:10 P.M.

115 *Business Finance* (3) Steele
Survey of financial policies involved in new enterprises and study of capital structures, promotion, earnings, surplus, reorganization, and governmental regulation. Prerequisite: Business Administration 51-52. 7:10 P.M.

128x *Insurance* (3) Dodder
Principles of property, life, marine, and casualty insurance; emphasis is placed upon the function of insurance in the economic life of a business or individual. 9:10 A.M.

145 *Cost Accounting* (3) Byrne
Job order and process systems of cost findings; interrelations of the cost records and the general accounts; standard costs; distribution costs. Prerequisite: Business Administration 51-52. 7:10 A.M.

* Botany 1 and 2 are prerequisite to all other courses in Botany.

- 151 *Intermediate Accounting* (3) Lewis, Ward
Partnerships, corporations, funds, reserves, depreciation, and valuation. Prerequisite: Business Administration 51-52. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 153 *Advanced Accounting* (3) Lewis, Ward
Consolidated statements, liquidations, and receiverships. Prerequisite: Business Administration 151-52. Section A: 11:10 A.M.; section B: 7:10 P.M.
- 155 *Analysis of Financial Statements* (3) Kennedy
Technique of analyzing financial statements for the guidance of operating executives, directors, stockholders, and creditors; valuation of balance sheet items; determination and interpretation of ratios. Prerequisite: Business Administration 51-52. 10:10 A.M.
- 157 *Federal Taxation* (3)
Tax problems which confront business enterprise: income, capital stock, payroll, and excise taxes. Prerequisite: Business Administration 51-52. 8:10 A.M.
- 168x *Sales Management* (3)
Organization of the sales department, sales planning and forecasting, quotas, territories, performance standards, and analysis and control of distribution costs. 7:10 P.M.
- 169 *Advertising Principles* (3)
Advertising as a function of marketing and merchandising; evaluation, purchase, criticism, and control of advertising; uses and limitations of advertising as a tool of management. 7:10 A.M.
- 171 *Principles of Marketing* (3) Johnson
A survey of marketing, giving particular attention to consumption retailing, wholesaling, and sales management; the entire marketing structure and its relation to the total economy. 8:10 A.M.
- 215 *Corporation Financial Problems* (3) Kennedy
Financial practice in promotion, consolidations and mergers, capital structure adjustments, and reorganization. Tues. and Wed., 6:10 to 8:00 P.M.

SECOND SESSION

- 51x *Introductory Accounting* (3) The Staff
Principles and procedures of double-entry accounting with special reference to single proprietorships. 6:10 P.M.
- 52 *Introductory Accounting* (3) The Staff
Accounting principles applied to partnerships and corporations; the valuation problem. Prerequisite: Business Administration 51. Section A: 9:10 A.M.; section B: 7:10 P.M.
- 112 *Personnel Management in Industry* (3) Owens
Survey of labor policies and methods of business enterprises. 10:10 A.M.

- 115x Business Finance (3)** Dodder
Survey of financial policies involved in new enterprises and study of capital structures, promotion, earnings, surplus, reorganization, and governmental regulation. Prerequisite: Business Administration 51-52. 8:10 A.M.
- 136 Business Problems (3)** Jessup
Survey of business forecasting, purchasing, and other current business problems. Prerequisite: Business Administration 51-52 and Economics 1-2. 7:10 P.M.
- 152 Intermediate Accounting (3)** Owens, Lewis
Partnerships, corporations, funds, reserves, depreciation, and valuation. Prerequisite: Business Administration 151. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 155x Analysis of Financial Statements (3)** Steele
Technique of analyzing financial statements for the guidance of operating executives, directors, stockholders, and creditors; valuation of balance sheet items; determination and interpretation of ratios. Prerequisite: Business Administration 51-52. 7:10 P.M.
- 165x Auditing (3)** Owens
Duties and responsibilities of the auditor, principles and procedures in making audits, arrangement of working papers and the preparation of reports. Prerequisite: Business Administration 151-52 or permission of instructor. 7:10 A.M.
- 291x Seminar in Business Administration (3)** _____
Tues. and Wed., 6:10 to 8:00 P.M.

CHEMISTRY

FIRST SESSION

- †11 General Chemistry (4)** Naeser, Wood, Harkness
This course is the first half of a full course. The second half, Chemistry 12, must be completed before credit is allowed. Laboratory fee, \$12. Lecture—Tues. through Fri., 10:10 A.M. Laboratory—section K: Tues. through Fri., 8:10 to 10:00 A.M.; section M: Tues. through Fri., 1:10 to 3:00 P.M. Recitation—section K: Tues. and Thurs., 11:10 A.M.; section M: Tues. and Thurs., 3:10 P.M. A student registers for the lecture, and for laboratory and recitation sections of the same letter designation.
- 21 Qualitative Inorganic Analysis (4)** Vincent, Wood
Theoretical and practical study of methods of separating and identifying the more common cations and anions using semi-micro techniques. Prerequisite: Chemistry 12. Laboratory fee, \$12. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—section K: Tues. through Fri., 9:10 to 12:00 A.M.; section M: Tues. through Fri., 2:10 to 5:00 P.M.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

- 135 *Inorganic Chemistry: Preparations* (2) Naeser
Application of the technique of inorganic chemistry to the preparation and purification of a list of selected substances. Prerequisite: Chemistry 111-12 and 152. Laboratory fee, \$14. Morning and afternoon sections, hours to be arranged.
- 136x *Inorganic Chemistry: Preparations* (2) Naeser
Application of the technique of inorganic chemistry to the preparation and purification of compounds of the less common elements obtained from both minerals and commercial sources. Prerequisite: Chemistry 135. Laboratory fee, \$14. Morning and afternoon sections, hours to be arranged.
- †151 *Organic Chemistry* (4) Mackall
Chemistry of the carbon compounds. Semi-micro and macro techniques are employed in the laboratory. Prerequisite: Chemistry 12 and 21. This course is the first half of a full course. The second half, Chemistry 152, must be completed before credit is allowed. Lecture (3), Laboratory (1). Laboratory fee, \$6. Lecture—Mon., Wed., and Fri., 9:10 and 11:10 A.M. Laboratory—section K: Tues. and Thurs. 9:10 to 12:00 A.M.; section M: Tues. and Thurs., 2:10 to 5:00 P.M.
- 295 *Research* The Staff
Research on problems approved by the staff. Open to qualified students with advanced training. Laboratory fee, \$6 a credit hour. Hours and credits to be arranged.
- 299 *Thesis* (3) The Staff
Hours to be arranged. Laboratory fee, \$15.

SECOND SESSION

- 12 *General Chemistry* (4) Van Evera
Prerequisite: Chemistry 11. Laboratory fee, \$12. Lecture—Tues. through Fri., 10:10 A.M. Laboratory—section K: Tues. through Fri., 8:10 to 10:00 A.M.; section M: Tues. through Fri., 1:10 to 3:00 P.M. Recitation—section K: Tues. and Thurs., 11:10 A.M.; section M: Tues. and Thurs., 3:10 P.M. A student registers for the lecture, and for the laboratory and recitation sections of the same letter designation.
- 22 *Qualitative Inorganic Analysis* (4) Norton
The principles of gravimetric and volumetric analysis. Prerequisite: Chemistry 21 or the equivalent. Laboratory fee, \$15. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—section K: Tues. through Fri., 9:10 to 12:00 A.M.; section M: Tues. through Fri., 2:10 to 5:00 P.M.
- 152 *Organic Chemistry* (4) Wrenn, Sager
A continuation of Chemistry 151. Prerequisite: Chemistry 151. Lecture (2), laboratory (2). Laboratory fee, \$12. Lecture—Tues. through Fri., 1:10 P.M. Laboratory—section K: Tues. through Fri., 9:10 to 12:00 A.M.; section M: Tues. through Fri., 2:10 to 5:00 P.M.

- 155x *Organic Chemistry: Preparations (2 or 3)* Wrenn
The synthesis of organic compounds and the application of the technique of organic chemistry to the preparation of pure compounds, using larger amounts and greater refinements than in Chemistry 151-52. Prerequisite: Chemistry 22 and 152. Laboratory fee, \$8 a credit hour. Morning and afternoon sections, hours to be arranged.
- 296 *Research* The Staff
Continuation of Chemistry 295. Laboratory fee, \$6 a credit hour. Hours and credits to be arranged.
- 300 *Thesis (3)* The Staff
Hours to be arranged. Material fee, \$15.

CIVIL ENGINEERING

FIRST SESSION

- 2x *Plane Surveying (3)* Eyman and Staff
Principles, methods, and instruments used in surveying, with field work. Prerequisite: Trigonometry. Surveying fee, \$8. Tues. through Fri., 11:10 A.M.; field work—hours to be arranged.
- 25 *Engineering Materials (2)* Eyman
Nonmetallic materials, with emphasis on cement. Prerequisite or concurrent registration; Chemistry 12. Mon. through Thurs., 9:10 A.M.
- 141 *Graphic Statics (3)* Greenshields, Finch
Fundamental principles, analysis of beams, determination of stresses in roof trusses and framed bents. Prerequisites: Civil Engineering 123. Drafting-room fee, \$1. Lecture: Mon., Tues., Wed., and Fri., 1:10 P.M. Drafting-room—Mon. and Fri., 2:10 to 5:00 P.M.

SECOND SESSION

- 26 *Engineering Materials (2)* Mandragos
Metallic materials, with emphasis on iron and steel. Prerequisite or concurrent registration: Chemistry 12. Mon. through Thurs., 9:10 A.M.
- 140 *Materials and Hydraulics Laboratory (2)* Finch, Colony
Determination of the properties of materials by mechanical tests, and a study of the flow of fluids. Prerequisite: Civil Engineering 123 and 136; prerequisite or concurrent registration: Civil Engineering 26. Laboratory fee, \$6. Section A: Tues. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Thurs., 8:10 to 11:00 P.M.
- 142 *Bridge Stresses (3)* Walther
Determination of stresses in modern types of bridge trusses. Prerequisite: Civil Engineering 141. Drafting-room fee, \$1. Lecture: Mon., Tues., Wed., and Fri., 1:10 P.M. Drafting-room—Mon. and Fri., 2:10 to 5:00 P.M.

SECOND SESSION

- 110 *Learning and Teaching* (3) Hall
The principles and practices of good teaching. Mon. through Thurs., 9:10 A.M.; field work: four hours to be arranged.
- 122 *School and Society* (3) Wilson
Organization and operation of schools; principles and functions. Mon. through Thurs., 5:10 P.M.; field work: four hours to be arranged.

PRE-SESSION

June 13 to July 1

- 219 *Elementary Education* (3) Eaves
Review of recent literature and practices; particular attention to *Education for all American Children*, the recent report of the Educational Policies Commission. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.
- 255 *Secondary Education* (3) Root
Review of recent literature and practices; particular attention to *Education for All American Youth*, the recent report of the Educational Policies Commission, and *General Education in a Free Society*, the Harvard Committee. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.
- 271 *The American School System* (3) Booker
Organization of public education, sources of school revenue, influences of national and state agencies; local administrative units, the chief legal controls, criteria of building administration; responsibilities of teachers. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.

SPECIAL SIX-WEEK SESSION

July 5 to August 12

- 115 *Elementary School Classroom Procedures* (3) Walker, Winn
Determination of children's needs and interests, providing for individual differences, evaluation of classroom practices. 8:00 to 9:00 A.M.; conference hour—Mon. and Wed., 10:20 A.M.
- 125 *Corrective Procedures in Reading* (3) Hilder
Study of levels, needs, materials, and corrective methods. Demonstrations and observations with clinic cases. 9:10 to 10:10 A.M.; conference hour—Tues. and Thurs., 10:20 A.M.
- 211 *Evaluation in Education* (3) Ruffner
Nature, functions, and techniques. 11:30 A.M. to 12:30 P.M.; conference hour—10:10 A.M.
- 217 *Contemporary Problems in Education* (3) Jarman
Designed to help students formulate a personal philosophy of education. 8:00 to 9:00 A.M.; conference hour—Tues. and Thurs., 10:10 A.M.

- 231 *Secondary School Classroom Procedures* (3) Bish
Survey of current classroom practices with particular attention to teaching aids, review of recent literature. 9:10 to 10:10 A.M.; conference hour—Mon. and Wed., 10:20 A.M.
- 254 *The Junior High School* (3) Root
Purposes; organization; core programs; guidance; developing courses of study. 10:20 to 11:20 A.M.; conference hour—Tues. and Thurs., 11:30 A.M.
- 256 *Secondary Education* (3) Bish
Current problems in each of the subject-matter fields. 11:30 A.M. to 12:30 P.M.; conference hour—Tues. and Thurs., 10:20 A.M.
- 272 *School Supervision* (3) Fox
Nature, organization, human relationships, and techniques. 10:20 to 11:20 A.M.; conference hour—Tues. and Thurs., 9:10 A.M.
- 280 *Adult Education* (3) Ruffner
Interests, needs, and capacities of adult learners; techniques employed in motivating and directing learning activities. Tues. and Thurs., 6:40 to 9:00 P.M.; conference hour—Tues. and Thurs., 6:00 P.M.
- 285 *Extra-classroom Activities* (3) Root
Home-room functions, student self-government, clubs, assemblies, school publications. Mon. and Wed., 6:40 to 9:00 P.M.; conference hour—Mon. and Wed., 6:00 P.M.
- 295 *Educational Research Methods and Procedures* (3) Fox
Required of all Master's candidates following Plan 2. 1:00 to 2:00 P.M.; conference hour—Mon. and Wed., 2:10 P.M.
- 297 *Reading in Education* (1) The Staff
To assist those preparing for the comprehensive examination. No credit toward degree requirements. 2:10 P.M.
- Psychology 227 *Seminar: Education and Vocational Guidance* (3) Dreese
An introduction to the techniques of educational and vocational guidance and the application of these procedures in various types of guidance agencies. Prerequisite: Educational or psychological measurements. 10:20 to 11:20 A.M.
- 299-300 *Thesis* (3-3) The Staff

POST-SESSION

August 15 to September 2

- 230 *Administration of Elementary Education* (3) Tuttle
The principal as a school and community leader. Problems of supervision, course of study development, parent relations. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.

- 233 *Audio-visual Education* (3) Johnson
Selection and use of audio-visual aids; management of materials and equipment. Material fee, \$5. Lecture 9:10 to 11:00 A.M.; laboratory 2:10 to 4:00 P.M.; conference hour—11:10 to 12:00 A.M.
- 251 *Guidance in Secondary Schools* (3) Cromwell
Scope; needs; organization of the program; services to students, the instructional staff, and the administration; personnel needed for the program. 9:10 to 11:00 A.M.; conference hour—11:10 A.M.

ELECTRICAL ENGINEERING

FIRST SESSION

- 9 *Elements of Electrical Engineering* (3) Akers
Magnetic and electrical circuits; direct-current instruments and machines. Prerequisite: Physics 7; prerequisite or concurrent registration: Mathematics 20. Section A: 11:10 A.M. to 12:10 P.M.; section B: 6:10 to 7:10 P.M.
- 13 *Electrical Laboratory* (2) The Staff
For the student not majoring in electrical engineering. Experiments in direct-current circuits, instruments, and machinery. Prerequisite: Electrical Engineering 10. Laboratory fee, \$6. Section A: Mon. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Fri., 1:10 to 4:00 P.M.; section C: Mon. and Thurs., 8:10 to 11:00 P.M.; section D: Tues. and Fri., 8:10 to 11:00 P.M.
- 105 *Direct-Current Laboratory* (2) The Staff
For the student majoring in electrical engineering. A course in measurements and direct-current dynamo laboratory. Prerequisite: Electrical Engineering 10. Laboratory fee, \$6. Section A: Mon. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Fri., 1:10 to 4:00 P.M.; section C: Mon. and Thurs., 8:10 to 11:00 P.M.; Section D: Tues. and Fri., 8:10 to 11:00 P.M.
- 107 *Alternating-Current Circuits* (3) Antel
Alternating-current-circuit theory. Extensive consideration is given to harmonic analysis and to the study of harmonics in both single-phase and polyphase circuits. Prerequisite: Electrical Engineering 10. 6:10 to 7:10 P.M.
- 133 *Alternating-Current Laboratory* (2) The Staff
A continuation of Electrical Engineering 105-6, with experiments on alternating-current circuits, instruments, and machinery. Prerequisite: Electrical Engineering 106 and 108. Laboratory fee, \$6. Section A: Mon. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Fri., 1:10 to 4:00 P.M.; section C: Mon. and Thurs., 8:10 to 11:00 P.M.; section D: Tues. and Fri., 8:10 to 11:00 P.M.

SECOND SESSION

- 10 *Elements of Electrical Engineering* (3) Ames
Alternating-current circuits, instruments, and machines. Prerequisite: Electrical Engineering 9. Section A: 11:10 A.M. to 12:10 P.M.; section B: 6:10 to 7:10 P.M.

- 14 Electrical Laboratory (2)** The Staff
A continuation of Electrical Engineering 13 with experiments in alternating-current circuits, instruments, and machinery. Laboratory fee, \$6. Section A: Mon. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Fri., 1:10 to 4:00 P.M.; section C: Mon. and Thurs., 8:10 to 11:00 P.M.; section D: Tues. and Fri., 8:10 to 11:00 P.M.
- 106 Direct-Current Laboratory (2)** The Staff
Same as Electrical Engineering 105. Laboratory fee, \$6. Section A: Mon. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Fri., 1:10 to 4:00 P.M.; section C: Mon. and Thurs., 8:10 to 11:00 P.M.; section D: Tues. and Fri., 8:10 to 11:00 P.M.
- 108 Alternating-Current Machinery (3)** Pida
Synchronous generators and motors, transformers, and mercury arc rectifiers. Prerequisite: Electrical Engineering 107. 6:10 to 7:10 P.M.
- 118 Advanced Network Theory I (3)** Carley
Theory of resonance, linear networks, transmission lines and filters. Prerequisite: Electrical Engineering 107. 5:10 to 6:10 P.M.
- 120 Advanced Network Laboratory I (2)** Carley
A laboratory course associated with Electrical Engineering 118. Laboratory fee, \$6. Tues. and Fri., 8:10 to 11:00 P.M.
- 134 Alternating-Current Laboratory (2)** The Staff
Continuation of Electrical Engineering 133. Laboratory fee, \$6. Section A: Mon. and Thurs., 1:10 to 4:00 P.M.; section B: Tues. and Fri., 1:10 to 4:00 P.M.; section C: Mon. and Thurs., 8:10 to 11:00 P.M.; section D: Tues. and Fri., 8:10 to 11:00 P.M.

ENGLISH *

FIRST SESSION

- A English Practice (3)** The Staff
Instruction, drill, and exercises in grammar, vocabulary, spelling, and mechanics in general; instruction and exercises in composition and reading. This course is designed to prepare students for English 1. Section A: 9:10 A.M.; section B: 7:10 P.M.
- 1 Freshman English ‡ (3)** The Staff
Review of grammar, exercises in composition, study of prose essays. Section A: 8:10 A.M.; section B: 9:10 A.M.; section C: 10:10 A.M.; section D: 7:10 P.M.
- 2x Freshman English (3)** The Staff
Continuation of English 1. Section A: 8:10 A.M.; section B: 9:10 A.M.; section C: 10:10 A.M.; section D: 11:10 A.M.; section E: 6:10 P.M.

* English 1-2 is prerequisite to English 51-52, 71-72, and 91-92.

‡ Students registered in English 1 are tested in the minimum essentials of standard usage, vocabulary, writing skill, and reading speed and comprehension. Those students who show marked superiority may, upon passing of further tests, be exempted from one or both terms of the Freshman English course; those who show deficiencies will be assigned to English A.

- 9 *Sophomore Composition* (3) Nichols
A study of types of expository writing with weekly exercises. Prerequisite: English 1-2. 9:10 A.M.
- 51 *Introduction to English Literature* (3) Shepard, Mowry
A historical survey. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 71 *Introduction to American Literature* (3) Coberly, Cole
A historical survey. Section A: 10:10 A.M.; section B: 5:10 P.M.
- 91 *Introduction to European Literature* (3) Shepard
Consideration of various types. 8:10 A.M.
- 126x *The Appreciation of Literature* (3) Stone
The study of the principles of criticism and their application to various literary types. 5:10 P.M.
- 129 *Elizabethan Nondramatic Literature* (3) Tupper
Nondramatic literature from 1485 to 1603. Prerequisite: English 51-52, 71-72, or 91-92. 9:10 A.M.
- 141 *The Neoclassical Movement* (3) Stone
Poetry and prose from 1660 through the mid-eighteenth century. Prerequisite: English 51-52, 71-72, or 91-92. 7:10 P.M.
- 161 *Victorian Literature* (3) Shepard
Poetry from 1830 to 1900. Prerequisite: English 51-52, 71-72, or 91-92. 11:10 A.M.
- 175 *The American Drama* (3) Cole
Reading and analysis of significant plays, from the beginnings to the present day. A condensation of English 175-76, as announced in the general catalogue. 6:10 P.M.
- 177 *The American Novel* (3) Coberly
Chronological development of fiction from the beginnings through the 1920's. A condensation of English 177-78, as announced in the general catalogue. 11:10 A.M.
- 183 *The English Drama* (3) Tupper
Concerned principally with the drama of Shakespeare's contemporaries. 10:10 A.M.
- 222x *The Age of Chaucer* (3) Stone
8:10 P.M.

SECOND SESSION

- A *English Practice* (3) The Staff
Section A: 11:10 A.M.; section B: 6:10 P.M.

- 1X *Freshman English* * (3) The Staff
Review of grammar, exercises in composition, study of prose essays.
Section A: 11:10 A.M.; section B: 6:10 P.M.
- 2 *Freshman English* (3) The Staff
Continuation of English 1. Section A: 8:10 A.M.; section B: 9:10 A.M.; section C: 10:10 A.M.; section D: 7:10 P.M.
- 9X *Sophomore Composition* (3) Howard
A study of types of expository writing with weekly exercises. Prerequisite: English 1-2. 10:10 A.M.
- 10 *The Short Story* (3) Howard
A study of the modern short story, with exercises in narrative writing. Prerequisite: English 1-2. 9:10 A.M.
- 52 *Introduction to English Literature* (3) Linton, Day
A historical survey. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 72 *Introduction to American Literature* (3) Bolwell
A historical survey from the Civil War to the present day. 10:10 A.M.
- 140 *The Seventeenth Century* (3) Linton
Milton. Prerequisite: English 51-52, 71-72, or 91-92. 8:10 A.M.
- 142 *The Neoclassical Movement* (3) Teeter
Poetry and prose from 1660 through the mid-eighteenth century. Prerequisite: English 51-52, 71-72, or 91-92. 7:10 P.M.
- 165X *Contemporary British Literature* (3) Linton
Poetry, prose, and drama since 1900. Prerequisite: English 51-52, 71-72, or 91-92. 10:10 A.M.
- 178 *Recent American Literature* (3) Bolwell
Modern trends and significant writers of the 1930's and 1940's. Fiction and drama, including motion pictures. 11:10 A.M.
- 296 *History of English Literary Criticism* (3) Teeter
Open to the undergraduate with the approval of the instructor. 8:10 P.M.

GEOGRAPHY

FIRST SESSION

- 52X *Introduction to Earth Sciences* (3) Jewell
An introduction to the sciences dealing with the physical earth, the lithosphere, the hydrosphere, and the atmosphere—with special emphasis upon those elements which most directly affect man's adjustment to his physical environment. 9:10 A.M.

* Students registered in English 1 are tested in the minimum essentials of standard usage, vocabulary, writing skill, and reading speed and comprehension. Those students who show marked superiority may, upon passing of further tests, be exempted from one or both terms of the Freshman English course; those who show deficiencies will be assigned to English A.

- †103 *Cartography* (3) Jewell
Principles of cartographic drafting; map projections; map and chart planning, design, and construction; uses of maps. Prerequisite: Geography 51-52. Lecture and laboratory—Mon., Tues., and Wed., 7:10 to 9:00 P.M.
- 123 *Economic Geography* (3) Withington
A study of man's economic activities as adjustments to the physical and cultural environments. Prerequisite: Geography 51. 10:10 A.M.
- 187 *Africa* (3) Withington
Physical, political, economic, and regional survey of Africa. 6:10 P.M.
- 215 *Geographic Factors in American Foreign Policy* (3) Koenig
A study of the physical and cultural environments as they affect our relationships with other nations. Tues. and Thurs., 7:10 to 8:25 A.M.

SECOND SESSION

- 51X *Introduction to Geography* (3) Campbell
A study of Geography as human ecology; an analysis of the physical and cultural environments, and of the relationships that exist between these environments and man. 9:10 A.M.
- 104 *Cartography* (3) Campbell
Principles of cartographic drafting; map projections; map and chart planning, design, and construction; uses of maps. Prerequisite: Geography 51-52 and 103. Lecture and laboratory—Mon., Tues., and Wed., 7:10 to 9:00 P.M.

GERMANIC LANGUAGES AND LITERATURES

FIRST SESSION

- †1 *First-year German* (3) Rogers, Sehrt
The essentials of German grammar, translation of easy prose. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 2X *First-year German* (3) Rogers
Continuation of German 1. 10:10 A.M.
- †3 *Second-year German* (3) Rogers, Sehrt
Selections from modern German prose, review of grammar. Prerequisite: German 1-2 or two years of high school German. Section A: 11:10 A.M.; section B: 7:10 P.M.
- 4X *Second-year German* (3) Cokenias
Continuation of German 3. 8:10 A.M.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

SECOND SESSION

- 2 *First-year German* (3) Legner, Cokenias
The essentials of German grammar, translation of easy prose. Section A: 9:10 A.M.; section B: 6:10 P.M.

- †3x *Second-year German* (3) Legner
Selections from modern German prose, review of grammar. Prerequisite: German 1-2 or two years of high school German. 10:10 A.M.

- 4 *Second-year German* (3) Legner, Cokenias
Continuation of German 3. Section A: 11:10 A.M.; section B: 7:10 P.M.

HISTORY •

FIRST SESSION

- 39 *The Development of European Civilization to 1500* (3) Kayser
Primarily for freshmen. The political, social, economic, and cultural history of the Old World from ancient times through the Middle Ages. 7:00 A.M.

- 71 *The Development of the Civilization of the United States* (3) Koenig
Primarily for sophomores. The political, social, economic, and cultural forces of the United States in their world setting from 1492 to 1865. Mon., Wed., and Fri., 7:00 to 8:25 A.M.

- 130x *Nationalism* (3) Kayser
The historical evolution of modern nationalism. 9:10 A.M.

- 139 *Modern Imperialism* (3) Ragatz
Africa and Europe in the nineteenth and twentieth centuries. 8:00 A.M.

- 147 *Economic History of Europe* (3) Ragatz
A survey from ancient times to the present day. 11:10 A.M.

- 181 *Diplomatic History of the United States* (3) Merriman
Tendencies toward isolation, expansion, and collectivism; disputes with foreign countries and their settlement; and the activities of the American secretaries of state and diplomatic agents: to the Civil War. 6:10 P.M.

- 182x *Diplomatic History of the United States* (3) Merriman
A continuation of History 181 from the Civil War to the present. 7:10 P.M.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

• History 39-40 is prerequisite to courses 130x through 150; History 71-73 to courses 161x through 182x; courses 199 and above require the consent of the instructor.

- 199 *Proseminar: The Literature and Method of History* (3) The Staff
Limited to majors in history. Hours to be arranged.
- 239 *Seminar in European Expansion* (3) Ragatz
Malaya and Australasia in the nineteenth and twentieth centuries.
Tues. and Thurs., 8:00 to 10:00 P.M.
- 281 *Seminar in the Diplomatic History of the United States* (3) Merriman
Mon. and Wed., 8:00 to 10:00 P.M.
- 291 *Seminar* (3) The Staff
Hours to be arranged.
- 299 *Thesis* (3) The Staff
For candidates for the Master's degree in history. Hours to be arranged.

SECOND SESSION

- 40 *The Development of European Civilization since 1500* (3) Davison
Primarily for freshmen. The political, social, economic, and cultural history of the Old World from the Age of Exploration to the present.
7:00 A.M.
- 72 *The Development of the Civilization of the United States* (3) _____
Primarily for sophomores. The political, social, economic, and cultural forces of the United States in their world setting from 1865 to the present. 8:00 A.M.
- 150 *European Diplomatic History* (3) Davison
Background of the European state system and of diplomatic practices and relations since 1871, with emphasis on the policies and actions of the great powers and their statesmen. 9:10 A.M.
- 161x *Latin American Civilization* (3) Wilgus
Development of political, economic, social, and institutional affairs of the Ibero-American colonies. 5:10 P.M.
- 162 *Latin American Civilization* (3) Wilgus
A continuation of History 161. 6:10 P.M.
- 173x *Representative Americans* (3) Gray
A biographical approach to national history. Some fifty significant and pivotal personalities in the development of the United States in government, business, education, science, religion, journalism, the arts, and social reform. 9:10 A.M.

- 174 *Economic History of the United States* (3) Gray
Main trends in the development of American agriculture, industry, and trade since 1607, with emphasis on tendencies and problems since the Civil War. 10:10 A.M.
- 200 *Proseminar: The Literature and Method of History* (3) The Staff
Hours to be arranged.
- 244 *Conference Seminar in Modern European History* (3) Davison
Readings on and informal discussions of major problems in the development of western European institutions and relations of the chief powers since the French Revolution. Hours to be arranged.
- 262 *Seminar in Latin American History* (3) Wilgus
Tues. and Thurs., 8:00 to 10:00 P.M.
- 272 *Seminar in the Social History of the United States* (3) Gray
Mon. and Wed., 8:00 to 10:00 P.M.
- 292 *Seminar* (3) The Staff
Hours to be arranged.
- 300 *Thesis* (3) The Staff
For candidates for the Master's degree in History. Hours to be arranged.

LAW

FIRST SESSION

- 123 *Criminal Law and Procedure* (4) Cooper
Elements of criminal liability; specific crimes; combinations of persons in crime; criminal procedure. Mon. and Wed., 12:10 to 1:00 P.M.; Tues., Thurs., and Fri., 11:10 A.M. to 1:00 P.M.
- 129 *Legal Method and Legal System* (4) Orentlicher
Introduction to study of substantive and procedural law. Examination of basic concepts with training in method and technique of case law, based upon modern records in state and federal cases and individual practice in the use of law books and legal writing. Importance of language in law and legal reasoning, both apart from and in connection with statutory interpretation and as affected by the use of precedent, under the doctrines of stare decisis, law of the case, and res judicata. Background on development of the English and American legal systems; organization of the judiciary and the bar, stressing enforcement of ethical standards. Mon., Wed., and Thurs., 9:10 to 11:00 A.M.; Tues. and Fri., 9:10 to 10:00 A.M.

- 138x *Property II* (4) Eckhardt
Real property; introduction; estates, seisin, landlord and tenant; future interests at common law and under the statutes of uses and wills; merger; elementary study of remoteness and powers; adverse possession; prescription; natural rights. Mon. through Thurs., 5:50 to 7:40 P.M.
- 141 *Torts* (4) Merrifield
Civil liability for harms to legally protected interests. Mon. through Thurs., 5:50 to 7:40 P.M.
- 231 *Equity* (4) _____
Specific performance of contracts; equitable conversion; statute of frauds; mutuality; conditions; defenses; equitable servitudes; powers of an equity court; effect of decrees, interpleader, bills of peace, cloud on title, rescission and reformation, mistake. Mon., Wed., and Thurs., 11:10 A.M. to 1:00 P.M.; Tues. and Fri., 12:10 to 1:00 P.M.
- 234x *Evidence* (4) Fryer
Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity; and contents of writings. Tues., Wed., and Fri., 9:10 to 11:00 A.M.; Mon. and Thurs., 9:10 to 10:00 A.M.
- 246x *Negotiable Instruments* (4) _____
Bills of exchange, promissory notes and checks, especially under the Negotiable Instruments' Law. Mon. through Thurs., 5:50 to 7:40 P.M.
- 251 *Restitution* (4) _____
Legal remedies for restitution of benefits obtained or conferred by performance of contract; misrepresentation, mistake, and coercion. Tues., Wed., and Thurs., 9:10 to 11:00 A.M.; Mon. and Fri., 9:10 to 10:00 A.M.
- 256x *Sales* (2) _____
Common Law, Uniform Sales Act and related statutes. Transfer of property interest; specification and appropriation; cash and conditional sales; COD, FOB, and CIF shipments; negotiable bills of lading and warehouse receipts; trust receipts; fraud on seller; retention of possession and bulk sales; remedies of seller and buyer including suit for price, stoppage in transit, seller's warranties; inspection. Tues. and Thurs., 9:10 to 11:00 A.M.
- 311 *Corporations* (4) Davison
Legal requirements as to contributions of capital; powers and rights of corporations, corporate officials, and shareholders. Tues., Wed., and Thurs., 11:10 A.M. to 1:00 P.M.; Mon. and Fri., 10:10 to 11:00 A.M.
- 317 *Creditors' Rights* (4) _____
Remedies of unsecured creditors; judgments; fraudulent conveyances; creditors' agreements; equity and statutory receiverships; bankruptcy. Mon. through Thurs., 5:50 to 7:40 P.M.

326x *Insurance* (2)

The insurance device in life, property, and other risks. Mon. and Fri., 11:10 A.M. to 1:00 P.M.

SECOND SESSION

123x *Criminal Law and Procedure* (4)

Elements of criminal liability; specific crimes; combinations of persons in crime; criminal procedure. Mon. through Thurs., 5:50 to 7:40 P.M.

138 *Property II* (4)

Benson

Real property; introduction; estates, seisin, landlord and tenant; future interests at common law and under the statutes of uses and wills; merger; elementary study of remoteness and powers; adverse possession; prescription; natural rights. Tues., Thurs., and Fri., 9:10 to 11:00 A.M.; Mon. and Wed., 9:10 to 10:00 A.M.

141x *Torts* (4)

Farage

Civil liability for harms to legally protected interests. Mon., Tues., Wed., and Thurs., 11:10 A.M. to 1:00 P.M.

205x *Civil Procedure* (4)

Burke

Function and composition of pleadings, including their relation to proof. Emphasis is upon reforms, as exemplified by modern code provisions and the Federal Rules of Civil Procedure. Tues., Wed., and Thurs., 9:10 to 11:00 A.M.; Mon. and Fri., 9:10 to 10:00 A.M.

234 *Evidence* (4)

Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity; and contents of writings. Mon. through Thurs., 5:50 to 7:40 P.M.

254 *Wills* (2)

Formation and revocation of wills; testate and intestate succession. Mon. and Fri., 11:10 A.M. to 1:00 P.M.

311x *Corporations* (4)

Forms of business associations; legal requirements as to contributions of capital; powers and rights of corporations, corporate officials, and shareholders. Mon. through Thurs., 5:50 to 7:40 P.M.

315x *Conflict of Laws* (4)

Study of cases involving foreign elements; principals of jurisdiction and limitations upon its exercise; procedure, torts, workmen's compensation, contracts, property, family law, administration of estates, business associations. Tues., Wed., and Thurs., 11:10 A.M. to 1:00 P.M.; Mon. and Fri., 10:10 to 11:00 A.M.

330 *Labor Law* (4)

Laws applicable to strikes, picketing, boycotts, etc.; organization and representation of employees; negotiation of collective bargaining contracts; inter-union and intra-union relations; settlement of wage disputes (arbitration, mediation, conciliation). Tues., Wed., and Thurs., 9:10 to 11:00 A.M.; Mon. and Fri., 9:10 to 10:00 A.M.

- 435x *Jurisprudence* (4) Collier
History of jurisprudence; schools of jurists, particularly the 19th century schools; sociological jurisprudence; theories of justice; the nature of law; law and morals; law and the state; the scope and subject matter of law; sources and forms of law; the traditional element; analysis of general legal concepts. Mon. through Thurs., 5:50 to 7:40 P.M.

SIXTEEN-WEEK TERM

JUNE 8TH TO SEPTEMBER 27TH

- 223S *Domestic Relations* (2) _____
Marriage, annulment, and divorce; rights of husband and wife; rights of parent and child, infants; conflict of laws involving problems of marriage evasion and migratory divorce. Fri., 5:50 to 7:40 P.M.
- 327S *Insurance* (2) _____
The insurance device in life, property, and other risks. Fri., 5:50 to 7:40 P.M.

MATHEMATICS

FIRST SESSION

- 3 *College Algebra* (3) The Staff
Prerequisite: one year each of high school algebra and high school geometry. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 6x *Plane Trigonometry* (3) The Staff
Prerequisite: two years of high school algebra and one year of high school geometry, or Mathematics 3. Section A: 11:10 A.M.; section B: 6:10 P.M.
- 12x *Analytic Geometry* (3) The Staff
Prerequisite: Mathematics 6. Section A: 11:10 A.M.; section B: 6:10 P.M.
- 19 *Differential Calculus* (3) The Staff
Prerequisite: Mathematics 12. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 20x *Integral Calculus* (3) The Staff
Prerequisite: Mathematics 19. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 132x *Differential Equations* (3) Nelson, _____
Prerequisite: Mathematics 20. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 139 *Advanced Calculus* (3) Mears
Prerequisite: Mathematics 20. 9:10 A.M.

SECOND SESSION

- 3x *College Algebra* (3) The Staff
Prerequisite: one year each of high school algebra and high school geometry. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 6 *Plane Trigonometry* (3) The Staff
Prerequisite: two years of high school algebra and one year of high school geometry, or Mathematics 3. Section A: 10:10 A.M.; section B: 7:10 P.M.
- 12 *Analytic Geometry* (3) The Staff
Prerequisite: Mathematics 6. Section A: 11:10 A.M.; section B: 6:10 P.M.
- 19x *Differential Calculus* (3) The Staff
Prerequisite: Mathematics 12. Section A: 11:10 A.M.; section B: 6:10 P.M.
- 20 *Integral Calculus* (3) The Staff
Prerequisite: Mathematics 19. Section A: 9:10 A.M.; section B: 6:10 P.M.
- 123x *Theory of Equations* (3) Johnston
Prerequisite: Mathematics 20. 9:10 A.M.
- 132 *Differential Equations* (3) Taylor
Prerequisite: Mathematics 20. 10:10 A.M.
- 171x *Vector Analysis* (3)
Prerequisite: Mathematics 20. 7:10 P.M.

MECHANICAL ENGINEERING

FIRST SESSION

- 13 *Mechanism* (2) Kabelac
Prerequisite: Mathematics 19; prerequisite or concurrent registration: Mathematics 20. Mon., Tues., Thurs., and Fri., 9:10 A.M.
- 111 *Thermodynamics* (3) Kohloss
Prerequisite or concurrent registration: Mathematics 20. Mon., Tues., Thurs., and Fri., 8:45 to 10:00 A.M.
- 115 *Mechanical Laboratory* (2) Greeley
Prerequisite: Mechanical Engineering 13-14 and 111-12. Laboratory fee, \$6. Mon., Wed., and Fri., 1:10 to 4:00 P.M.
- 131 *Heating, Ventilating, Air Conditioning, and Refrigeration* (2) Kohloss
Prerequisite: Mechanical Engineering 112. Mon., Tues., Thurs., and Fri., 1:10 P.M.

- 133 *Combustion Engines* (2) Greeley
Prerequisite: Mechanical Engineering 112; Civil Engineering 123 and 136; Electrical Engineering 10. Mon., Tues., Thurs., and Fri., 10:10 A.M.
- 139 *Fluid Dynamics* (3) Kabelac
Mon., Tues., Thurs., and Fri., 11:10 A.M. to 12:25 P.M.
- 140x *Dynamics of Machinery* (3) Johnson
Prerequisite: Mechanical Engineering 115; Civil Engineering 123 and 136. Mon., Tues., Thurs., and Fri., 11:10 A.M. to 12:25 P.M.
- 189 *Proseminar in Mechanical Engineering* (1) Bardsley
Tues. and Thurs., 6:10 P.M.

SECOND SESSION

- 14 *Mechanism* (2) Trumbull
Prerequisite: Mechanical Engineering 13; Mathematics 19. Prerequisite or concurrent registration: Mathematics 20. Mon., Tues., Thurs., and Fri., 9:10 A.M.
- 112 *Thermodynamics* (3) Cruickshanks
Prerequisite: Mechanical Engineering 111. Mon., Tues., Thurs., and Fri., 8:45 to 10:00 A.M.
- 116 *Mechanical Laboratory* (2) Cruickshanks
Prerequisite: Mechanical Engineering 13-14 and 111-12. Laboratory fee, \$6. Mon., Wed., and Fri., 1:10 to 4:00 P.M.
- 126 *Methods of Manufacture* (2) Trumbull
Prerequisite: Mechanical Engineering 8 and 14; Civil Engineering 26. Mon., Tues., Thurs., and Fri., 10:10 A.M.
- 132 *Heating, Ventilating, Air Conditioning, and Refrigeration* (2) Shreeve
Prerequisite: Mechanical Engineering 131. Mon., Tues., Thurs., and Fri., 1:10 P.M.
- 190 *Proseminar in Mechanical Engineering* (1) Bardsley
Tues. and Thurs., 6:10 P.M.

PHILOSOPHY

FIRST SESSION

- 51 *Introduction to Philosophy* (3) Gauss
A critical introduction to the problems of modern philosophy in relation to scientific and social developments since the Renaissance. 10:10 A.M.
- 111 *History of Philosophy* (3) Gauss
A history of philosophy in the western world from 600 B. C. to the Middle Ages. 9:10 A.M.

- 193 *Topics in Contemporary Philosophy: Existentialism* (3) Gauss

A critical and historical study of the backgrounds in Kierkegaard, Heidegger, and Sartre of the contemporary French literary movement. 6:10 P.M.

SECOND SESSION

- 52 *Introduction to Philosophy* (3) Thoms

Continuation of Philosophy 51. Introduction to issues in the philosophy of science and social philosophy. 10:10 A.M.

- 112 *History of Philosophy* (3) Thoms

From the Middle Ages to Kant. 9:10 A.M.

- 154 *The Linguistic Approach to Philosophy* (3) Thoms

A historical and critical study of philosophical doctrines stressing the dependence of thought upon language. This course includes a critical exposition of the works of the twentieth-century semanticists and logical empiricists. Prerequisite: one course in Philosophy or the permission of the instructor. 6:10 P.M.

PHYSICS

FIRST SESSION

- 8x *General Physics* (3) Meijer

The experimental evidence concerning light waves and quanta, X-rays, and radio waves; electrons, protons, and other elementary particles; atomic and molecular structure; and nuclear physics. Prerequisite: Physics 6 and 7. Section A: 1:10 P.M.; section B: 7:10 P.M.

- 55 *Physical Measurements* (2) Wiggins

Theory and use of the methods of precise measurement in the several fields of physics. Prerequisite: Physics 6 and 7; prerequisite or concurrent registration: Mathematics 19. Material fee, \$6. Section A: Tues. and Thurs., 2:10 to 5:30 P.M.; section B: Wed. and Fri., 2:10 to 5:30 P.M.; section C: Mon., 2:10 to 5:30 P.M.; and Sat., 9:10 A.M. to 12:30 P.M.

SECOND SESSION

- 128 *Sound* (3) Cheney

Production, propagation, and detection of sound waves; vibrations of sounding bodies; acoustic instruments and acoustic measurements. Prerequisite: Physics 8; Mathematics 20. 5:10 P.M.

FIFTEEN-WEEK TERM

- 6S *General Physics* (3) Koehl, Meijer

Mechanics, wave-motion, sound, and the theory of optical instruments. Prerequisite*: Physics 5; high school algebra and plane geometry. Material fee, \$6.

Section	Lecture	Recitation	Laboratory
M	.....T 11:10 am.....F	9:10 am.....F	10:10 am-12:30 pm
N	.....T 6:10 pm.....S	9:10 am.....S	10:10 am-12:30 pm
P	.....T 11:10 am.....M	1:10 pm.....M	2:10 pm- 4:30 pm
R	.....T 11:10 am.....W	1:10 pm.....W	2:10 pm- 4:30 pm
Y	.....T 6:10 pm.....Th	7:10 pm.....Th	8:10 pm-10:30 pm

7S General Physics (3)

Koehl, Meijer

Elementary electricity and magnetism. Prerequisite*: Physics 5, high school algebra and plane geometry. Material fee, \$6.

Section	Lecture	Recitation	Laboratory
H	.....Th 11:10 am.....M	9:10 am.....M	10:10 am-12:30 pm
T	.....Th 11:10 am.....F	1:10 pm.....F	2:10 pm- 4:30 pm
U	.....Th 6:10 pm.....M	7:10 pm.....M	8:10 pm-10:30 pm
V	.....Th 6:10 pm.....T	7:10 pm.....T	8:10 pm-10:30 pm

POLITICAL SCIENCE ‡**FIRST SESSION**

- 9 *Government of the United States ‡ (3)* West, Kraus
Fundamental principles of political science and the organization of the Federal Government. Section A: 8:10 A.M.; section B: 6:10 P.M.
- 10X *Government of the United States ‡ (3)* Brewer
The organization of state and local governments; relationships with the Federal Government; the functions of the federal, state, and local governments in the United States. 10:10 A.M.
- 111 *Governments of Europe (Great Britain, France, and Switzerland) (3)* Kraus
10:10 A.M.
- 118X *Political Theory (3)* Kraus
11:10 A.M.
- 121 *The Constitution of the United States (3)* West
9:10 A.M.
- 151 *Public Administration (3)* Torpey
7:10 P.M.
- 181 *International Law (3)* Brewer
9:10 A.M.
- 240X *Seminar: Problems in Personnel Management (3)* Torpey
Tues. and Thurs., 8:10 to 10:00 P.M.
- 281 *Seminar: International Law and Relations (3)* Brewer
Mon. and Wed., 8:10 to 10:00 P.M.

* This prerequisite may be waived for students who have credit for a high school physics course which included individual laboratory work, providing they pass the qualifying examination given at the dates specified in the University calendar.

‡ Political Science 9-10 is prerequisite to all other courses in political science.

SECOND SESSION

- 9x *Government of the United States** (3) Oglesby
Fundamental principles of political science and the organization of the Federal Government. 10:10 A.M.
- 10 *Government of the United States** (3) Stoddart, ———
The organization of state and local governments; relationships with the Federal Government; the functions of the federal, state, and local governments in the United States. Section A: 8:10 A.M.; section B: 6:10 P.M.
- 127x *Commercial Law: Contracts, Agency, and Bailments* (3) Tillemma
10:10 A.M.
- 128 *Commercial Law: Negotiable Instruments, Property, Sales, Mortgages* (3) Tillemma
6:10 P.M.
- 129x *Law in Relation to the Form of Business Units* (3) Tillemma
11:10 A.M.
- 171x *International Politics* (3) Stoddart
7:10 A.M.
- 172 *International Organization: the United Nations* (3) Stoddart
10:10 A.M.
- 182 *International Law* (3) Oglesby
9:10 A.M.
- 272 *Problems in International Politics and Organizations* (3) Hadsel
Mon. and Wed., 8:10 to 10:00 P.M.

PSYCHOLOGY ‡

FIRST SESSION

- 1 *General Psychology* (3) Tuthill, Mosel
The fundamental principles underlying human behavior. Section A: 8:10 A.M.; section B: 6:10 P.M.
- 2x *Applied Psychology* (3) Wilson
The applications of psychology in business, industry, medicine, law, guidance, education, and social problems. 9:10 A.M.

* Political Science 9-10 is prerequisite to all other courses in political science.

‡ Psychology 1 is prerequisite to all other courses in psychology.

- 22x *Introduction to Educational Psychology* (3) Wilson
Consideration of individual and group differences, adjustments, and the psychology of learning in relation to education and training. 10:10 A.M.
- 98x *Abnormal Psychology* (3) Hunt
The causes, diagnosis, treatment, and prevention of the various types of maladjustments and mental disorders. 8:10 A.M.
- 131 *Psychological Tests* (3) Hunt
A survey of psychological tests and their most common uses in business, industry, government, law, medicine, and education. Material fee, \$2.25. Mon., Wed., and Fri., 7:10 to 8:30 P.M.
- 144x *Personnel Psychology* (3) Mosel
The applications of psychology to personnel work in education, business, industry, and government. Mon., Wed., and Fri., 3:10 to 4:30 P.M.
- 151 *Social Psychology* (3) Tuthill
The social foundations of attitudes and behavior. Individual adjustment to group situations, such as the family, school, fraternity, and occupation. The psychological bases of race prejudice, nationalism, and war. 9:10 A.M.
- 156x *Psychology of Propaganda and Public Opinion* (3) Tuthill
Mon., Wed., and Fri., 11:10 A.M. to 12:30 P.M.
- 193 *Readings in Psychology* (3) The Staff
Supervised readings on specific topics in psychology; with conferences; for undergraduate majors. Open only to seniors with 18 or more credits in psychology with a quality point index of 3.00 or higher. Special permission of staff member under whom course is to be taken is necessary. Hours to be arranged.
- 205 *Field Work in Psychology* (3) The Staff
Supervised field work in agencies providing psychological service. Admission by permission of the Executive Officer of the Department. Hours to be arranged.
- 207 *Readings in Psychology for Graduate Students* (3) The Staff
Supervised readings with conferences on specified topics in psychology. Hours to be arranged.
- 223 *Seminar: Psychology of Learning* (3) Wilson
Contemporary theories of learning with a consideration of the systematic concepts and experiments which result from the various theories. Tues. and Thurs., 1:10 to 3:10 P.M.

231 *Test Construction* (3)

Hunt

The principles underlying test construction; statistical techniques in the construction, evaluation, and standardization of psychological, educational, and vocational tests. Prerequisite: a course in tests and measurements and a course in statistics. Mon. and Wed., 1:10 to 3:10 P.M.

246x *Seminar: Personnel Measurement Techniques* (3)

Mosel

Detailed consideration of interviews, personal data analysis, tests, ratings and questionnaires in evaluating employability, job proficiency, and worker morale. Tues. and Thurs., 7:10 to 9:10 P.M.

295 *Research in Psychology*

The Staff

Hours and credits to be arranged.

299 *Thesis* (3)

The Staff

SPECIAL SIX-WEEK SESSION

July 5 to August 12

227 *Seminar: Educational and Vocational Guidance* (3)

Dreese

An introduction to the techniques of educational and vocational guidance and the application of these procedures in various types of guidance agencies. Prerequisite: educational or psychological measurements. 10:20 to 11:25 A.M.

SECOND SESSION*

1x *General Psychology* (3)

Phillips, _____

The fundamental principles underlying human behavior. Section A: 8:10 A.M.; section B: 7:10 P.M.

2 *Applied Psychology* (3)

Caldwell

The applications of psychology in business, industry, medicine, law, guidance, education, and social problems. 11:10 A.M.

29x *Child Psychology* (3)

Phillips

A genetic approach to the study of the child. 9:10 A.M.

98 *Abnormal Psychology* (3)

The causes, diagnosis, treatment, and prevention of the various types of maladjustments and mental disorders. 6:10 P.M.

171x *Psychology of Personality* (3)

Caldwell

Contemporary approaches to the study of personality. Mon., Wed., and Fri., 7:10 to 8:30 P.M.

* Psychology 1 is prerequisite to all other courses in psychology.

- 194 *Readings in Psychology* (3) The Staff
Supervised readings on specific topics in psychology; with conferences; for undergraduate majors. Open only to seniors with 18 or more credits in psychology with a quality-point index of 3.00 or higher. Special permission of staff member under whom course is to be taken is necessary. Hours to be arranged.
- 196 *History and Systems of Psychology* (3) Caldwell
A survey of the contemporary schools of psychology. Prerequisite: 12 credits in psychology. Mon., Wed., and Fri., 1:10 to 2:30 P.M.
- 206 *Field Work in Psychology* (3) The Staff
Supervised field work in agencies providing psychological service. Admission by permission of the Executive Officer of the Department. Hours to be arranged.
- 208 *Readings in Psychology for Graduate Students* (3) The Staff
Supervised readings with conferences on specific topics in psychology. Hours to be arranged.
- 225x *Seminar: Mental Hygiene* (3) Phillips
A study of problems in the field of mental health and prevention of maladjustments and mental disease. Tues. and Thurs., 1:10 to 3:10 P.M.
- 228 *Seminar: Techniques of Counseling* (3) Davis
A detailed study of counseling techniques and the types of counseling problems likely to confront teachers, employee counselors, vocational counselors and veterans' advisers. Tues. and Thurs., 7:10 to 9:10 P.M.
- 296 *Research in Psychology* The Staff
Hours and credits to be arranged.
- 300 *Thesis* (3) The Staff

RELIGION

FIRST SESSION

- 101 *New Testament* (3) Folkemer
A study of the literature of the New Testament from the standpoint of occasion, purpose, dominant ideas, and permanent values. Special consideration given to life in the primitive church. 11:10 A.M.
- 60x *History of Religions* (3) Folkemer
A study of Judaism, Christianity, and Islam; analysis of early development, thought, life, institutions, and expansion. Recent issues and trends examined. 6:10 P.M.

ROMANCE LANGUAGES AND LITERATURES *

FIRST SESSION

French *

- †1 *First-year French* (3) The Staff
Grammar, composition, translation, pronunciation. Section A: 9:10 A.M.; section B: 2:10 P.M.; section C: 6:10 P.M.
- 2x *First-year French* (3) The Staff
Continuation of French 1. Section A: 10:10 A.M.; section B: 6:10 P.M.
- †3 *Second-year French* (3) The Staff
Reading of modern French, grammar review, oral practice. Prerequisite: French 1-2 or two years of high school French. Section A: 8:10 A.M.; section B: 7:10 P.M.
- 4x *Second-year French* (3) The Staff
Continuation of French 3. Section A: 8:10 A.M.; section B: 7:10 P.M.
- †109 *French Conversation and Composition* (3) The Staff
Section A: 8:10 A.M.; section B: 6:10 P.M.
- 135 *The Modern Novel in France* (3) Keating
An intensive study of the characteristic novels of the nineteenth and twentieth centuries. Lectures, collateral reading, class discussion. 9:10 A.M.

Spanish *

- †1 *First-year Spanish* (3) The Staff
Grammar, composition, translation, pronunciation. Section A: 8:10 A.M.; section B: 2:10 P.M.; section C: 6:10 P.M.
- 2x *First-year Spanish* (3) The Staff
Continuation of Spanish 1. Section A: 9:10 A.M.; section B: 7:10 P.M.
- †3 *Second-year Spanish* (3) The Staff
Reading of modern Spanish, grammar review, oral practice. Prerequisite: Spanish 1-2 or two years of high school Spanish. Section A: 10:10 A.M.; section B: 11:10 A.M.; section C: 6:10 P.M.
- 4x *Second-year Spanish* (3) The Staff
Continuation of Spanish 3. Section A: 9:10 A.M.; section B: 7:10 P.M.
- †109 *Spanish Conversation and Composition* (3) Supervía
Section A: 8:10 A.M.; section B: 7:10 P.M.

* A standardized placement examination will be required of all entering students who wish to continue in college the language begun in high school. Upon completion of the examination assignment will be made to the appropriate course, with credit to be assigned on the usual basis.

† A dagger preceding an odd numbered course indicates that it is the first half of a two-year course, the second half of which must be completed before credit is allowed.

- 135 *The Modern Novel in Spain* (3) Supervía
An intensive study of the characteristic novels of the nineteenth and twentieth centuries. Lectures, collateral reading, class discussion. 9:10 A.M.

- 153 *The Modernista Movement in Spanish America* (3) Vázquez
A study of the backgrounds, trends, and personalities of this movement. 6:10 P.M.

- 154x *The Modernista Movement in Spanish America* (3) Vázquez
Continuation of Spanish 153. 7:10 P.M.

SECOND SESSION

French *

- 2 *First-year French* (3) The Staff
Continuation of French 1. Section A: 9:10 A.M.; section B: 2:10 P.M.; section C: 6:10 P.M.

- †3x *Second-year French* (3) The Staff
Reading of modern French, grammar review, oral practice. Prerequisite: French 1-2 or two years of high school French. Section A: 10:10 A.M.; section B: 6:10 P.M.

- 4 *Second-year French* (3) The Staff
Continuation of French 3. Section A: 8:10 A.M.; section B: 7:10 P.M.

- 110 *French Conversation and Composition* (3) The Staff
Section A: 8:10 A.M.; section B: 6:10 P.M.

- 136 *The Modern Drama in France* (3) Eldridge
Reading, analysis, and discussion of typical plays and dramatic trends of the nineteenth and twentieth centuries. Lectures, collateral reading, class discussion. 9:10 A.M.

Spanish *

- 1 *First-year Spanish* (3) The Staff
Continuation of Spanish 1. Section A: 8:10 A.M.; section B: 2:10 P.M.; section C: 6:10 P.M.

- †3x *Second-year Spanish* (3) The Staff
Reading of modern Spanish, grammar review, oral practice. Prerequisite: Spanish 1-2 or two years of high school Spanish. Section A: 9:10 A.M.; section B: 7:10 P.M.

* A standardized placement examination will be required of all entering students who wish to continue in college the language begun in high school. Upon completion of the examination assignment will be made to the appropriate course, with credit to be assigned on the usual basis.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

- 4 *Second-year Spanish* (3) The Staff
Continuation of Spanish 3. Section A: 10:10 A.M.; section B: 11:10 A.M.; section C: 6:10 P.M.

- 110 *Spanish Conversation and Composition* (3) Alonso
Section A: 8:10 A.M.; section B: 7:10 P.M.

- 136 *The Modern Drama in Spain* (3) Alonso
A study of selected plays with an appreciation of their social and literary significance. Lectures, collateral reading, class discussion. 9:10 A.M.

SOCIOLOGY *

FIRST SESSION

- 1 *Organization of Society** (3) Lavell
The origin and development of culture, man's social nature, types of groups and social institutions, social processes, social change, and social control. Section A: 9:10 A.M.; section B: 7:10 P.M.

- 125 *Rural Sociology* (3) Geisert
The origin and development of rural culture, types of rural communities, rural social institutions, social processes in rural life, present rural problems and planning. 10:10 A.M.

- 132x *Marriage* (3) Geisert
The social structure and control of marriage, marriage laws, mate selection, husband-wife relationships, factors in marital adjustment, marriage prediction and counseling. 11:10 A.M.

SECOND SESSION

- 2 *Problems of Society* (3) Yeager
The factors producing social change and social disorganization, an analysis of the problems arising from the disorganization of the individual and the family. Section A: 9:10 A.M.; section B: 7:10 P.M.

- 126 *Urban Sociology* (3) Yeager
Types of cities, their origin, location, composition, functions, and problems; urban group life and personality; the organization of the city; urban housing and community planning. 10:10 A.M.

SPEECH

FIRST SESSION

- A *Speech Clinic* Surrey and Staff
Individual or group lessons, without academic credit, for such speech difficulties as lisping, cleft palate, articulatory problems and stuttering. Fee: for individual lesson, \$5; for group lesson, \$3. Time to be arranged.

* Sociology 1 is prerequisite to all other courses in sociology.

- 11 *Training the Speaking Voice* (3) Surrey, Thurston
Developing ease, naturalness, and clarity in the speaking voice. Analysis of individual voices through recordings. Phonetic approach to the study of the sounds of English and the standards of speech. Recording fee, \$1.50. Section A: 10:10 A.M.; section B: 11:10 A.M.; section C: 6:10 P.M.
- 12x *Oral Reading* (3) Phelps
Reading to others: theory and practice of interpreting the printed page. Prerequisite: Speech 11. Recording fee, \$1.50. 10:10 A.M.
- 21 *Effective Speaking* (3) Henigan, Phelps, Thurston
Preparation and delivery of extempore speeches; developing confidence and poise, body and voice control; selecting and organizing material. Recording fee, \$1.50. Section A: 8:10 A.M.; section B: 9:10 A.M.; section C: 10:10 A.M.; section D: 11:10 A.M.; section E: 7:10 P.M.
- 22x *Speech Making* (3) Henigan
Special emphasis is placed on organization of material and elementary principles of persuasion. This course is a continuation of Speech 21, which is prerequisite. Recording fee, \$1.50. 9:10 A.M.

SECOND SESSION

- A *Speech Clinic* Bielski and Staff
Individual or group lessons, without academic credit, for such speech difficulties as lisping, cleft palate, articulatory problems, and stuttering. Fee: for individual lesson, \$5; for group lesson, \$3. Time to be arranged.
- 11x *Training the Speaking Voice* (3) Bielski
Developing ease, naturalness, and clarity in the speaking voice. Analysis of individual voices through recordings. Phonetic approach to the study of the sounds of English and the standards of speech. Recording fee, \$1.50. 6:10 P.M.
- 12 *Oral Reading* (3) Leggette
Reading to others: theory and practice of interpreting the printed page. Prerequisite: Speech 11. Recording fee, \$1.50. Section A: 10:10 A.M.; section B: 11:10 A.M.
- 21x *Effective Speaking* (3) Leggette, Stevens
Preparation and delivery of extempore speeches; developing confidence and poise, body and voice control; selecting and organizing material. Recording fee, \$1.50. Section A: 9:10 A.M.; section B: 11:10 A.M.; section C: 7:10 P.M.
- 22 *Speech Making* (3) Stevens
Special emphasis is placed on organization of material and elementary principles of persuasion. This course is a continuation of Speech 21, which is prerequisite. Recording fee, \$1.50. Section A: 9:10 A.M.; section B: 10:10 A.M.

STATISTICS

FIRST SESSION

- 51 *Elementary Statistics* (3) Weida
Collection of data, classification and tabulation, averages, construction and use of index numbers and quotients, dispersion, analysis of frequency distribution, time series, correlation, and graphic presentation. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5. Lecture—section A: 10:10 A.M.; section B: 6:10 P.M. Laboratory—section M: Mon. and Wed., 2:00 to 3:30 P.M.; section N: Tues. and Thurs., 2:00 to 3:30 P.M.; section P: Mon. and Wed., 8:00 to 9:30 P.M.

- 52x *Mathematics of Finance* (3) Marks
Interest and discount, annuities, valuation of stocks and bonds, sinking funds, amortization, valuation of depletable assets, depreciation, building and loan associations. Prerequisite: one entrance unit in algebra. Section A: 9:10 A.M.; section B: 7:10 P.M.

- †115 *Principles of Statistical Methods* (3) Weida
This course emphasizes the meaning, uses, and application of variates and attributes, measurement and enumeration, averages and dispersion, frequency distributions and their characteristics, errors of measurement and their control, index numbers, trends, cyclical relatives, purposive and random sampling in theory and practice with applications. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5. This is the first half of a 6 credit course. Except by special arrangement with the instructor, the second half, Statistics 116, must be completed before credit is allowed. Lecture—7:10 P.M.; laboratory—Tues. and Thurs., 8:00 to 9:30 P.M.

- 117 *Analysis of Variance* (3) Marks
The analysis of variance and covariance to segregate factors producing significant variation, a method to estimate experimental error, multiple classification with unequal class frequencies. Prerequisite: Statistics 115-16. 6:10 P.M.

SECOND SESSION

- 51x *Elementary Statistics* (3) Johnson, —
Collection of data, classification and tabulation, averages, construction and use of index numbers and quotients, dispersion, analysis of frequency distribution, time series, correlation, and graphic presentation. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5. Lecture—section A: 9:10 A.M.; section B: 7:10 P.M. Laboratory—section M: Mon. and Wed., 2:00 to 3:30 P.M.; section N: Mon. and Wed., 8:00 to 9:30 P.M.

- 52 *Mathematics of Finance* (3) Johnson, —
Interest and discount, annuities, valuation of stocks and bonds, sinking funds, amortization, valuation of depletable assets, depreciation, building and loan associations. Prerequisite: one entrance unit in algebra. Section A: 10:10 A.M.; section B: 6:10 P.M.

† A dagger preceding an odd-numbered course indicates that it is the first half of a full-year course, the second half of which must be completed before credit is allowed.

116 Principles of Statistical Methods (3)

Continuation of Statistics 115. Prerequisite: Statistics 115. Laboratory fee, \$5. Lecture—7:10 P.M.; laboratory—Tues. and Thurs., 8:00 to 9:30 P.M.

118 Correlation and the Chi-Square Test (3)

Johnson

Advanced study of simple, partial, and multiple correlation. Rank correlation, the method of contingency, and the problem of normal and non-normal populations. Tests of independence, likeness, and goodness of fit. Prerequisite: Statistics 115-16. 6:10 P.M.

ZOOLOGY**FIRST SESSION****1 Introduction to Zoology (4)**

Mortensen and Staff

An introduction to the study of the structure, functions, and relation of animals, and of the fundamental biological principles involved. Material fee, \$4.50. Lecture—section A: Mon. through Thurs., 1:10 P.M.; section B: Mon. through Thurs., 6:10. Laboratory—section S: Mon. through Thurs., 2:10 to 4:00 P.M.; section T: Mon. through Thurs., 7:10 to 9:00 P.M.

141 Comparative Vertebrate Anatomy (3)

Hansen

Lectures on the organ systems of the vertebrates; laboratory dissections of types. Prerequisite: Zoology 2. Material fee, \$6. Lecture—Mon. and Wed., 2:10 P.M.; laboratory—Mon. through Thurs., 3:10 to 5:00 P.M.

144x Introduction to Vertebrate Embryology (3)

Hansen

The origin and early development of the individual and the formation of organ systems. Emphasis is placed on the frog, chick, and pig, with reference to the human embryo. Prerequisite: Zoology 2 and 141 or 142. Material fee, \$6. Lecture—Mon. and Wed., 6:10 P.M.; laboratory—Mon. through Thurs., 7:10 to 9:00 P.M.

295 Research (3)

The Staff

Investigation of special problems. Hours to be arranged.

299 Thesis (3)

The Staff

SECOND SESSION**2 Introduction to Zoology (4)**

Young, ———

Continuation of Zoology I. Material fee, \$4.50. Lecture—section A: Mon. through Thurs., 1:10 P.M.; section B: Mon. through Thurs., 6:10 P.M. Laboratory—section S: Mon. through Thurs., 2:10 to 4:00 P.M.; section T: Mon. through Thurs., 7:10 to 9:00 P.M.

105x Entomology (3)

Munson

A study of the elementary morphology, physiology, and ecology of insects, with an introduction to the taxonomy of the more important groups. Prerequisite: Zoology 1-2, or the equivalent. Material fee, \$5. Lecture—Mon. and Wed., 2:10 P.M.; laboratory—Mon. through Thurs., 3:10 to 5:00 P.M.

- 137x *Histology* (3) Young
 An introduction to the microscopical anatomy of normal tissues and organs. Prerequisite: Zoology 2. Material fee, \$6. Lecture—Mon. and Wed., 7:10 P.M.; laboratory—Mon. and Wed., 8:10 to 10:00 P.M., and Tues. and Thurs., 7:10 to 9:00 P.M.
- 142 *Comparative Vertebrate Anatomy* (3) _____
 Continuation of Zoology 141. Prerequisite: Zoology 2. Material fee, \$6. Lecture—Mon. and Wed., 2:10 P.M.; laboratory—Mon. through Thurs., 3:10 to 5:00 P.M.
- 296 *Research* (3) The Staff
 Investigation of special problems. Hours to be arranged.
- 300 *Thesis* (3) The Staff

SCHEDULE OF CLASSES

HOURLY SCHEDULE OF CLASSES •

FIRST SESSION † JUNE 8 to AUGUST 1

MORNING CLASSES

7:10	8:10	9:10	10:10	11:10
Bus Adm 145 Bus Adm 169 Geog 215 (TTh to 8:25) Hist 39 (at 7) Hist 71 (MWF 7-8:25)	Biol 127 (at 8) Bus Adm 157 Bus Adm 171 Chem 11K lab. (TWThF to 10) Eng 1A Eng 2xA Eng 91 Fr 3A Fr 4xA Fr 109A Ger 4x Hist 139 (at 8) ME 111 (MTThF 8:45-10) Pol Sc 9A Psych 1A Psych 98x Span 1A Span 109A Speech 21A	Biol 1 lect. (TTh) Biol 1 trip (W to 12) Bot 1A lect. (TWThF) Bot 105 trip (S to 12) Bus Adm 51A Bus Adm 128x Bus Adm 151A Chem 21K lab. (TWThF to 12) Chem 151 lect. (MWF) Chem 151K lab. (TTh to 12) CE 25 (MTWTh) Econ 101 Econ 161 Ed 109 (MTWTh) Eng A—sect. A Eng 1B Eng 2xB Eng 9 Eng 51A	Biol 1 lab. (TTh to 12) Bus Adm 155 Chem 11 lect. (TWThF) Econ 1A Econ 102x Eng 1C Eng 2xC Eng 71A Eng 183 Fr 2xA Geog 123 Ger 2x Math 3A Math 20xA Math 132xA ME 133 (MTThF) Phil 51 Pol Sc 10x Pol Sc 111 Psych 22x Soc 125	Bot 1B lect. (TWThF) Bus Adm 153A Chem 11K rec. (TTh) Chem 151 lect. (MWF) CE 2x (TWThF) Econ 166x EE 9A (to 12:10) Eng 2x1 Eng 161 Eng 177 Ger 3A Ilist 147 Math 6xA Math 12xA ME 139 (MTThF to 12:25) ME 140x (MTThF to 12:25) Pol Sc 118x Psych 156x Relg 10x Soc 132x

• Seminars and research courses for which hours are to be arranged, courses in the Law School, and the special sessions of the School of Education will be found under departmental announcements.

† Classes meet Monday through Friday unless otherwise indicated.

MORNING CLASSES—Continued

7:10	8:10	9:10	10:10	11:10
		Eng 129 Fr 1A Fr 135 Geog 52x Ger 1A Hist 130x Math 19A Math 139 ME 13 (MITThF) Phil 111 Phys 55C (S to 12:30) Pol Sc 121 Pol Sc 181 Psych 2x Psych 151 Soc 1A Span 2xA Span 4xA Span 135 Speech 21B Speech 22x Stat 52xA	Span 3A Speech 11A Speech 12x Speech 21C Stat 51A lect.	Span 3B Speech 11B Speech 21D

FIRST SESSION—AFTERNOON CLASSES

12:10	1:10	2:10	3:10
Bot 1B lab. (TWThF to 1)	Bot 105 lect. (S) Chem 11M lab. (TWThF to 3) Chem 21 lect. (TWThF) CE 141 lect. (MTWF) EE 13A (MTh to 4) EE 13B (TF to 4) EE 105A (MTh to 4) EE 105B (TF to 4) EE 133A (MTh to 4) EE 133B (TF to 4) ME 115 (MWF to 4) ME 131 (MTThF) Phys 8xA Psych 223 (Th to 3:10) Psych 231 (MW to 3:10) Zoo 1A lect. (MTWTh)	Biol 115 lect. (MW) Biol 115 lab. (Th to 4) Bot 1A lab. (Th to 4) Bot 105 lab. (S to 4) Chem 21M lab. (TWThF to 5) Chem 151M lab. (Th to 5) CE 141 lab. (MF to 5) Fr 1B Phys 55A (Th to 5:30) Phys 55B (WF to 5:30) Phys 55C (M to 5:30) Span 1B Stat 51M lab. (MW 2-3:30) Stat 51N lab. (Th 2-3:30) Zoo 1S lab. (MTWTh to 4) Zoo 141 lect. (MW)	Biol 115 lab. (MW to 5) Chem 11M rec. (Th) Psych 144x (MWF to 4:30) Zoo 141 lab. (MTWTh to 5)

FIRST SESSION—EVENING CLASSES

5:10	6:10	7:10	8:10
Econ 181 Ed 121 (MTWTh) Eng 71B Eng 126x	Bot 105 lect. (Th) Bus Adm 52x Bus Adm 101 Bus Adm 151B	Bot 105 lab. (Th to 9) Bus Adm 51B Bus Adm 115 Bus Adm 153B	EE 13C (MTh to 11) EE 13D (TF to 11) EE 105C (MTh to 11) EE 105D (TF to 11)

5:10	6:10	7:10	8:10
	Bus Adm 215 (TW to 8) Econ 1B Econ 109 F.E. 9B (to 7:10) F.E. 107 (to 7:10) Eng 2xE Eng 51B Eng 175 Fr 1C Fr 2xB Fr 109 B Geog 187 Ger 1B Hist 181 Math 6xB Math 12xB Math 19B ME 189 (TTh) Phil 193 Pol Sc 9B Psych 1B Relig 60x Span 1C Span 3C Span 153 Speech 11C Stat 51B lect. Stat 117 Zoo 1B lect. (MTWTh) Zoo 144x lect. (MW)	Bus Adm 168x Econ 206x (MW to 9) Eng A—sect. B Eng 1—D Eng 141 Fr 3B Fr 4xB Geog 103 (MTW to 9) Ger 3B Hist 182x Math 3B Math 20xB Math 132xB Phys 8xB Pol Sc 151 Psych 131 Psych 246x (TTh to 9) Soc 1B Span 2xB Span 4xB Span 109B Span 154x Speech 21E Stat 52xB Stat 115 lect. Zoo 1T lab. (MTWTh to 9) Zoo 144x lab. (MTWTh to 9)	EE 133C (MTh to 11) EE 133D (TF to 11) Eng 222x Hist 239 (TTh 8-10) Hist 281 (MW 8-10) Pol Sc 240x (TTh to 10) Pol Sc 281 (MW to 10) Stat 51P lab. (MW 8-9:30) Stat 115 lab. (TTh 8-9:30)

SECOND SESSION •—AUGUST 3 to SEPTEMBER 23

MORNING CLASSES

7:10	8:10	9:10	10:10	11:10
Bus Adm 165x Hist 40 (at 7) Pol Sc 171x	Bus Adm 115x Chem 12K lab. (TWThF to 10) Eng 2A Eng 140 Fr 4A Fr 110A Hist 72 (at 8) ME 112 (MTThF 8:45-10) Pol Sc 10A Psych 1xA Span 2A Span 110A	Biol 2 lect. (TTh) Biol 2 trip (WF to 12) Bot 2A lect. (TWThF) Bus Adm 52A Bus Adm 152A Chem 22K lab. (TWThF to 12) Chem 152K lab. (TWThF to 12) CE 26 (MTWTh) Econ 121x Ed 110 (MTWTh) Eng 2B Eng 10 Eng 52A Fr 2A Fr 136 Geog 51x Ger 2A Hist 150 Hist 173x Math 20A Math 123x ME 14 (MTThF) Phil 112 Pol Sc 182 Psych 29x	Biol 2 lab. (TTh to 12) Bus Adm 112 Chem 12 lect. (TWThF) Econ 2A Econ 122 Eng 2C Eng 9x Eng 72 Eng 165x Fr 3xA Ger 3x Hist 174 Math 3xA Math 6A Math 132 ME 126 (MTThF) Phil 52 Pol Sc 172 Pol Sc 9x Pol Sc 127x Pol Sc 172 Soc 126 Span 4A Speech 12A Speech 22B Stat 52A	Bot 2B lect. (TWThF) Chem 12K rec. (TTh) EE 10A (to 12:10) Eng A—sect. A Eng 1xA Eng 178 Ger 4A Math 12A Math 19xA Pol Sc 129x Psych 2 Span 4B Speech 12B Speech 21xB

• Classes meet Monday through Friday unless otherwise indicated.

MORNING CLASSES—Continued

7:10	8:10	9:10	10:10	11:10
		Soc 2A Span 3xA Span 136 Speech 21xA Speech 22A Stat 51xA lect.		

SECOND SESSION—AFTERNOON CLASSES

12:10	1:10	2:10	3:10
Bot 2B lab. (TWThF to 1)	Chem 12M lab. (TWThF to 3) Chem 22 lect. (TWThF) Chem 152 lect. (TWThF) CE 140A (TTh to 4) CE 142 lect. (MTWF) EE 14A (MTh to 4) EE 14B (TF to 4) EE 106A (MTh to 4) EE 106B (TF to 4) EE 134A (MTh to 4) EE 134B (TF to 4) ME 116 (MWF to 4) ME 132 (MTThF) Psych 196 (MWF to 2:30) Psych 225x (TTh to 3:10) Zoo 2A lect. (MTWTh)	Bot 2A lab. (TTh to 4) Chem 22M lab. (TWThF to 5) Chem 152M lab. (TWThF to 5) CE 142 lab. (MF to 5) Fr 2B Span 2B Stat 51xM lab. (MW 2-3:30) Zoo 2S lab. (MTWTh to 4) Zoo 105x lect. (MW) Zoo 142 lect. (MW)	Chem 12M rec. (TTh) Zoo 105x lab. (MTWTh to 5) Zoo 142 lab. (MTWTh to 5)

SECOND SESSION—EVENING CLASSES

5:10	6:10	7:10	8:10
Econ 182 Ed 122 (MTWTh) EE 118 (to 6:10) Hist 161x Phys 128	Bus Adm 51x Bus Adm 152B Bus Adm 291x (TW to 8) Econ 2B Econ 146 EE 10B (to 7:10) EE 108 (to 7:10) Eng A—sect. B Eng 1xB Eng 52B Fr 2C Fr 3xB Fr 110B Ger 2B Math 12B Math 19xB Math 20B ME 190 (TTh) Phil 154 Pol Sc 10B Pol Sc 128 Psych 98 Span 2C Span 4C Speech 11x Stat 52B Stat 118 Zoo 2B lect. (MTWTh)	Bus Adm 52B Bus Adm 136 Bus Adm 155x Econ 260 (MW to 9) Eng 2D Eng 142 Fr 4B Geog 104 (MTW to 9) Ger 4B Math 3xB Math 6B Math 171x Psych 12B Psych 171x (MWF to 8:30) Psych 228 (Th to 9:10) Soc 2B Span 3xB Span 110B Speech 21xC Stat 51xB lect. Stat 116 lect. Zoo 2T lab. (MTWTh to 9) Zoo 137x lect. (MW) Zoo 137x lab. (TTh to 9)	CE 140B (TTh to 11) EE 14C (MTh to 11) EE 14D (TF to 11) EE 166C (MTh to 11) EE 166D (TF to 11) EE 120 (TF to 11) EE 134C (MTh to 11) EE 134D (TF to 11) Eng 296 Hist 262 (TTh 8-10) Hist 272 (MW 8-10) Pol Sc 272 (MW to 10) Stat 51xN lab. (MW 8-9:30) Stat 116 lab. (TTh 8-9:30) Zoo 137x lab. (MW to 10)

FIFTEEN-WEEK TERM—JUNE 8 to SEPTEMBER 16

MORNING CLASSES

9:10	10:10	11:10
CE 136SA (MWF) Phys 6SM rec. (F) Phys 6SN rec. (S) Phys 7SH rec. (M)	CE 21-22SA (MTWThF) CE 123SA (MWF) CE 136SB (MWF) Phys 6SM lab. (F to 12:30) Phys 6SN lab. (S to 12:30) Phys 7SH lab. (M to 12:30)	CE 21-22SB (MTWThF) CE 123SB (MWF) Phys 6SM lect. (T) Phys 6SP lect. (T) Phys 6SR lect. (T) Phys 7SH lect. (Th) Phys 7ST lect. (Th)

AFTERNOON CLASSES

1:10	2:10
Phys 6SP rec. (M) Phys 6SR rec. (W) Phys 7ST rec. (F)	Phys 6SP lab. (M to 4:30) Phys 6SR lab. (W to 4:30) Phys 7ST lab. (F to 4:30)

EVENING CLASSES

6:10	7:10	8:10
CE 123SC (MWF) Phys 6SN lect. (T) Phys 6SY lect. (T) Phys 7SU lect. (Th) Phys 7SV lect. (Th)	CE 136SC (MWF) Phys 6SY rec. (Th) Phys 7SU rec. (M) Phys 7SV rec. (T)	Phys 6SY lab. (Th to 10:30) Phys 7SU lab. (M to 10:30) Phys 7SV lab. (T to 10:30)

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THE LAW SCHOOL

1949-50

THE
GEORGE
WASHINGTON
UNIVERSITY
BULLETIN

VOL. XLVIII

No. 5

THE LAW SCHOOL

WASHINGTON, D. C.

PUBLISHED IN JULY
MCMXLIX

BY THE UNIVERSITY

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CALENDAR

1949-50

Date	Day	Occasion
1949		
Fall Term:		
Sept. 28-30.....	Wednesday through Friday	Registration
Oct. 3.....	Monday	Fall term begins
Nov. 11.....	Friday	Fall Convocation. Holiday
Nov. 24-26.....	Thursday through Saturday	Thanksgiving recess
Dec. 22-Jan. 2....	Thursday through Monday	Christmas recess
1950		
Jan. 3.....	Tuesday	Classes resume
Jan. 20-31.....	Friday through Tuesday	Fall term examination period
Winter Term:		
Feb. 2 and 3.....	Thursday and Friday.	Registration
Feb. 6.....	Monday	Winter term begins
Feb. 22.....	Wednesday	Winter Convocation. Holiday
April 7 and 8.....	Friday and Saturday.	Easter recess
May 8.....	Monday	Summer-term preregistration for students registered in the win- ter term
May 17-27.....	Wednesday through Saturday	Winter term examination period
May 28.....	Sunday	Baccalaureate Sermon
May 31.....	Wednesday	Commencement
Summer Term:		
June 5.....	Monday	Registration of new students for the first session
June 6.....	Tuesday	First-session classes begin
July 4.....	Tuesday	Independence Day. Holiday
Aug. 1.....	Tuesday	First summer session ends
Aug. 2.....	Wednesday	Registration for the second ses- sion of the summer term
Sept. 4.....	Monday	Second-session classes begin
Sept. 26.....	Tuesday	Labor Day. Holiday
Sept. 27-29.....	Wednesday through Friday	Second summer session ends
		Registration for the fall term of the academic year 1950-51

THE UNIVERSITY

THE BOARD OF TRUSTEES

The Board of Trustees of the University is composed of the President and Vice-President of the University ex officio and the following persons by election:

Robert Vedder Fleming, LL.D., *Chairman*

Henry Parsons Erwin, A.B., *Secretary*

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Lloyd Bennett Wilson

* Nominated by the alumni.

OFFICERS OF ADMINISTRATION

THE UNIVERSITY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
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John Russell Mason, B.S. in L.S., A.M., *Librarian; Curator of Art*
Myrna Pauline Sedgwick, A.B., *Administrative Secretary*
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Don Carlos Faith, A.B., *Director of Veterans Education*

THE LAW SCHOOL

_____, *Dean of the Law School*
Anna Marie Bischoff, A.B., *Secretary to the Dean of the Law School*
Ella Cooper Thomas, LL.B., *Assistant Librarian in Charge of the Law*
Library
Kaethe Wiegand Wilber, *Secretary in the Law School*

THE UNIVERSITY

HISTORY AND ORGANIZATION

The idea of a university in the Capital of the Nation was sponsored by George Washington, who during his public life urged the establishment of such an institution and who in his will left fifty shares of stock in the Potomac (Canal) Company for the endowment of a university to be established in the District of Columbia "to which the youth of fortune and talents from all parts thereof might be sent for the completion of their Education in all the branches of polite literature;—in arts and Sciences,—in acquiring knowledge in the principles of Politics & good Government".

The George Washington University operates under a charter granted by an act of Congress of February 9, 1821, to Columbian College in the District of Columbia. In 1873 the name was changed to "Columbian University" and in 1904 to "The George Washington University".

The University as it is now organized consists of the Junior College, comprising the work of the freshman and sophomore years; Columbian College, the senior college of liberal arts, which offers work leading to the Bachelor's and Master's degrees; the Graduate Council, which offers work leading to the degree of Doctor of Philosophy; the professional schools, which include Medicine, Law, Engineering, Pharmacy, Education, and Government; the Division of University Students; the Division of Special Students; and the Summer Sessions.

ACADEMIC STATUS

The George Washington University is on the final approved list of the Association of American Universities. This fact not only assures to students the academic standards of this association, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women.

The Law School is a charter member of the Association of American Law Schools and is approved by the Council of Legal Education of the American Bar Association.

LOCATION

The George Washington University is in downtown Washington, four blocks west of the White House and east of the Potomac River with its extensive parkway. Within a few blocks are the buildings housing the offices of many of the departments of the Government, including the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Navy, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Department of Labor. Also readily accessible are the Capitol, the Library of Congress, the National Archives, the Supreme Court, and other federal courts.

THE LAW SCHOOL

THE LAW SCHOOL

THE FACULTY

CLOYD HECK MARVIN, Ph.D., LL.D., *President of the University*
, Dean of the Law School

EMERITUS FACULTY

WALTER COLLINS CLEPHANE

Professor Emeritus of Law

LL.B. 1880, LL.M. 1890, LL.D. 1912, The George Washington University. Member 1890-. Committee on Admissions and Grievances, District Court of the United States for the District of Columbia; Member 1906-. Conference of Commissioners on Uniform State Laws. In Practice of Law 1889-. Member of Clephane, Latimer and Hall, Washington (D. C.), 1918-48; Instructor in Moot Court 1890-1900, Professor of Law 1900-16, Professor Emeritus of Law 1936-. The George Washington University.

GILBERT LEWIS HALL

Professor Emeritus of Law

A.B. 1899, Swarthmore College; LL.B. 1918, The George Washington University. Teacher and Division Superintendent of Schools 1901-10, P. I.; with U. S. Indian Service 1912-18; in Practice of Law with Clephane and Latimer, Washington (D. C.) 1918-36; Member 1936-48, Clephane, Latimer and Hall, Washington (D. C.); Lecturer in Law 1920-38, Adjunct Professor of Law 1938-42, Professor Emeritus of Law 1942-. The George Washington University.

JOHN WILMER LATIMER

Professor Emeritus of Law

LL.B. 1897, The George Washington University. In Practice of Law 1906-11; Judge 1913-17, Juvenile Court of the District of Columbia; Member 1918-48, Clephane, Latimer and Hall, Washington (D. C.); Clerk of the Moot Court 1902-7, Instructor in Law 1908-9, Assistant Professor of Law 1910-11, Professor of Law 1913-42, Professor Emeritus of Law 1942-. The George Washington University.

WALTER LEWIS MOLL

Professor Emeritus of Law

A.B. 1898, Concordia College (Ind.); Graduate 1890, Concordia Theological Seminary (St. Louis); LL.B. 1923, Indiana University; S.J.D. 1924, Harvard University. University Scholar 1902-3, University Fellow 1903-4, Johns Hopkins University; Professor of English, 1904-6, Professor of Greek 1900-20, Concordia College (Ind.); in Practice of Law with Olds & Thomas, Fort Wayne (Ind.) 1920-22; Instructor in Commercial Law 1920-21, Instructor in Law 1921-23, Indiana University; Professor of Law 1924-43; Professor Emeritus of Law 1943-. The George Washington University.

HECTOR GALLOWAY SPAULDING

Professor Emeritus of Law

B.S. 1900, University of Minnesota; LL.B. 1903, S.J.D. 1924, Harvard University. Acting Assistant Professor of Law 1914-15, Stanford University; in Practice of Law with Rutch, Woodford, Bovee and Butcher, New York City; with Cassoday, Butler, Lamb and Foster, Chicago; Assistant Professor of Law 1920-22, Professor of Law 1922-47, Professor Emeritus of Law in Residence 1947-49, Professor Emeritus of Law 1949-. The George Washington University.

WENDELL PHILLIPS STAFFORD

Professor Emeritus of Law

LL.B. 1881, Boston University; A.M. 1901, Dartmouth College; LL.D. 1905, LL.D. 1929, University of Vermont; LL.D. 1906, Georgetown University; LL.D. 1910, Middlebury College; LL.D. 1916, The George Washington University. Judge 1900-1902, Supreme Court of Vermont; Associate Justice 1904-31, Supreme Court of the District of Columbia; Lecturer on Agency 1904-6, Georgetown University; Professor of Law 1908-29, Professor Emeritus of Law 1929-. The George Washington University.

ACTIVE FACULTY

CARVILLE DICKINSON BENSON

Professor of Law

A.B. 1920, Johns Hopkins University; LL.B. 1923, S.J.D. 1926, Harvard University. In Practice of Law with Benson, Nock & Rowe, Baltimore (Md.) 1923-25; Assistant Professor of Law, 1926-29, Emory University; Assistant Professor of Law 1929-33, Associate Professor of Law 1933-43, Professor of Law 1943-. The George Washington University. Subjects: Legal Method and Legal System, Property, Wills

JOHN PATRICK BURKE

Associate Professor of Law

A.B. 1940, LL.B. 1941, The George Washington University. Law Clerk, U. S. Court of Appeals for the District of Columbia 1941-42; Assistant U. S. Attorney, District of Columbia 1942-48; Associate Professor of Law 1948-. The George Washington University.

Subjects: Civil Procedure, Legal Method, Equity

CHARLES SAGER COLLIER

Professor of Law

A.B. 1911, LL.B. 1913, S.J.D. 1913, Harvard University. In Practice of Law with Rounds, Schurman and Dwight (later Hughes, Schurman and Dwight), New York City 1913-16; Member Staff 1918-19, Cornell University Law School; Ezra Ripley Thayer Teaching Fellow 1921-22, Harvard University Law School; Member Faculty, Second Semester 1935-36, University of Wisconsin Law School; Assistant Professor of Law 1918-21, Astoria Dean of the Law School 1910-31, Professor of Law 1921-. The George Washington University.

Subjects: Constitutional Law, Jurisprudence, Taxation, Constitutional Law Seminar

WILLIAM RANDALL COMPTON

Professorial Lecturer in Law

LL.B. 1928, Union University (N. Y.); M.B.A. 1931, Harvard University; J.S.D. 1931, Cornell University. Clerk to Committee on Labor and Industry 1925-28, New York State Senate; Dean and Professor of Business Administration 1931-32, Green Mountain Junior College. In Practice of Law with McDowell and McDowell 1934-35, Elmira (N. Y.); General Counsel 1941-. Quartermaster Corps, Department of the Army, Chairman 1946-. Civilian Legal Personnel Committee, Department of the Army and Department of the Air Force, Assistant Professor of Law 1935-45, Associate Professor of Law 1945-46, Professorial Lecturer in Law, 1946-. The George Washington University.

Subject: Domestic Relations

ROBERT MCKINNEY COOPER

Associate Professor of Law

A.B. 1929, West Virginia University; Ph.M. 1931, University of Wisconsin; J.D. 1934, University of Michigan. Special Assistant to the Attorney General of the United States, 1934-41; The Assistant to the General Counsel of the Federal Communications Commission, 1939-41; Special Counsel to the Bonneville Power Administration, Department of the Interior, 1941-43; Major, Military Government Division, War Department General Staff, U. S. Army 1943-46; Member 1946-47, McFarland and Sellers, Washington, D. C.; Associate Professor of Law 1947-. The George Washington University.

Subjects: Federal Jurisdiction, Criminal Law, Agency, Corporations

GEORGE BOWDOIN CRAIGHILL

Adjunct Professor of Law

A.B. 1903, University of the South; LL.B. 1906, Georgetown University. Member M. Kenney, Flannery and Craighill, Lecturer 1913-24, Washington College of Law; Adjunct Professor of Law 1939-. The George Washington University.

Subject: Moot Court

JAMES FORRESTER DAVISON*Professor of Law; Editor-in-Chief of the Law Review*

A.B. 1921, LL.B. 1923, Baltimore University; LL.M. 1924, S.J.D. 1929, Harvard University. Lecturer in Roman Law and Jurisprudence, 1924-28; Assistant Professor of Roman Law and Jurisprudence 1928-29; University of Toronto; Brandeis Research Fellow 1928-29; Research Fellow 1929-30; Harvard University; Assistant Professor of Law 1930-35; Associate Professor of Law 1935-45; Professor of Law 1945-. The George Washington University; Editor-in-Chief 1935-. *The George Washington Law Review*. Subjects: Administrative Law, Current Decisions, Public Utilities, Administrative Law Seminar

HARRYMAN DORSEY*Professorial Lecturer in Law*

A.B. 1929, LL.B. 1931, The George Washington University; Practice of Law 1932-42, 1949-. Lecturer in Political Science 1937-38; The George Washington University; Captain, Judge Advocate General's Department, U. S. Army; Associate Professor of Law 1947-49; Professorial Lecturer in Law 1949-. The George Washington University. Subjects: Corporations, Trusts

AUGUST GOTTLIEB ECKHARDTAssistant Professor of Law*

A.B. 1939, LL.M. 1946, University of Wisconsin; LL.B. 1942, The George Washington University. Member 1946-47, Schmitt & Eckhardt, Merrill (Wis.). Assistant Professor of Law 1947-. The George Washington University.

JUSTIN LINCOLN EDGERTON*Professorial Lecturer in Law; Clerk of the Moot Court*

A.B. 1929, LL.B. 1931, The George Washington University. In Practice of Law 1931-39, with Frank F. Nesbit, Washington, D. C.; Member 1939-47, Nesbit, Procter and Edgerton, Washington (D. C.); Member 1947-. Cromelin, Townsend, and Kirkland, Washington (D. C.); Clerk of the Moot Court 1936-. Associate in Law 1936-47; Lecturer in Law 1943-47; Professorial Lecturer in Law 1947-. The George Washington University.

Subject: Moot Court

WILLIAM LEIGH ELLIS*Lecturer in Law*

A.B. 1926, Hillsdale College; LL.B. 1931, LL.M. 1936, The George Washington University. Special Claims Examiner 1936-38, U. S. General Accounting Office; Attorney 1938-42; Municipal Attorney 1942-45; Assistant to the Comptroller General of the United States 1945-. Lecturer in Law 1942-. The George Washington University.

Subject: Legislation

DONALD JAMES FARAGE*Associate Professor of Law*

A.B. 1910, LL.B. 1911, University of Pennsylvania. Assistant to the Reporter for the Restatement of Torts, American Law Institute 1931-36; in Practice of Law 1936-44; Member, Richter, Lord and Farage, Philadelphia, 1945-48; Professor of Law 1942-46, Dickinson School of Law; Associate Professor of Law 1948-. The George Washington University.

Subjects: Constitutional Law, Torts, Conflict of Laws, Civil Procedure

WILLIAM THOMAS FRYER*Professor of Law*

A.B. 1922, LL.B. 1924, The George Washington University; J.D. 1925, Yale University. In Practice of Law with William Pepper Constable, Baltimore (Md.) 1924-27; Assistant Professor of Law 1926-29; Associate Professor of Law 1929-40; Professor of Law 1940-. The George Washington University.

Subjects: Evidence, Legal Method and Legal System, Property I

* On leave of absence 1949-50.

CONDER CAYWOOD HENRY*Adjunct Professor of Law*

A.B. 1915; LL.B. 1920, The George Washington University. Examiner 1915-24. Principal Examiner, U. S. Patent Office 1924-41; Assistant Commissioner of Patents 1941-46; Manager, Washington Patent Department, Radio Corporation of America 1946-; Adjunct Professor of Law 1948-. The George Washington University.

Subject: Patent Moot Court, Patent Office Practice

PHILIP FIELD HERRICK*Professorial Lecturer in Law*

A.B. 1929, Williams College; LL.B. 1933, LL.M. 1936, The George Washington University. Assistant Editor, U. S. Law Week 1932-33; Assistant Counsel, National Recovery Administration 1933-35; in Practice of Law with Barbour, Garnett & Pickett, Washington (D. C.), 1935-39; Regional Director, Wage and Hour Division 1939-42; U. S. Attorney for Puerto Rico 1942-48; Member, Appeal Board, Office of Contract Settlement 1948-; Professorial Lecturer in Law 1948-. The George Washington University.

Subject: Moot Court

JOHN WINGFIELD JACKSON*Adjunct Professor of Law*

B.S. 1928, University of Pennsylvania; LL.B. 1932, The George Washington University. In Practice of Law 1932-36; Assistant U. S. Attorney for the District of Columbia 1936-41; Member, Jackson, Hannah & Jackson, Washington (D. C.), 1941-; Adjunct Professor of Law 1948-. The George Washington University.

Subject: Moot Court

JOHN ALEXANDER KENDRICK*Assistant Clerk of the Moot Court*

A.B. 1942, LL.B. 1943, The George Washington University. In Practice of Law, Washington (D. C.), 1946-; Assistant Clerk of the Moot Court 1948-. The George Washington University.

Subject: Moot Court

JAMES ROBERT KIRKLAND*Adjunct Professor of Law*

A.B. 1927, LL.B. 1928, LL.M. 1929, The George Washington University; C.P.A. (Delaware) 1935. Assistant U. S. Attorney for the District of Columbia, 1929-34; Member 1938-, Cromelin, Townsend, and Kirkland, Washington (D. C.); Lecturer in Law 1934-45; Adjunct Professor of Law 1945-, The George Washington University.

Subject: Moot Court

BOLITHA JAMES LAWS*Adjunct Professor of Law*

LL.B. 1913, LL.M. 1914, Georgetown University. Assistant U. S. Attorney for the District of Columbia 1914-20; Assistant General Counsel, U. S. Shipping Board 1921-22; Member, Cromelin & Laws, Washington (D. C.), 1922-38; Judge 1938-45, Chief Judge 1945-, District Court for the District of Columbia; Judge, U. S. Emergency Court of Appeals 1943; Adjunct Professor of Law 1939-41, Southeastern University; Adjunct Professor of Law 1947-. The George Washington University.

Subject: Moot Court

LOUIS LOSS*Professorial Lecturer in Law*

B.S. 1931, University of Pennsylvania; LL.B. 1937, Yale University. Attorney 1937-44, Chief Counsel 1944-48, Division of Trading and Exchanges, Associate General Counsel 1949-. U. S. Securities and Exchange Commission; Lecturer in Law 1941-42, Catholic University of America; Visiting Lecturer in Law 1947-, Yale University; Professorial Lecturer in Law 1949-. The George Washington University.

Subject: S.E.C. Aspects of Corporate Finance

ELLIOTT DeJARNETTE MARSHALL*Adjunct Professor of Law*

LL.B. 1930, The George Washington University. In Practice of Law, Front Royal (Va.), 1930-46; Judge, Seventeenth Judicial Circuit of Virginia 1946-; Adjunct Professor of Law 1948-, The George Washington University.

Subject: Moot Court

JOHN ALBERT McINTIRE

Professorial Lecturer in Law

A.B. 1928, Wittenberg College; LL.B. 1931, University of Cincinnati; Research Fellow 1935-36, Harvard University Law School; Editor 1937-41, *Municipal Law Journal*; Executive Director 1937-41, National Institute of Municipal Law Officers; Faculty Editor-in-Chief 1932-42, *The George Washington Law Review*; Member of Appeal Board, Office of Contract Settlement 1946-; Instructor in Law 1911-19, Assistant Professor of Law 1911-18, Associate Professor of Law 1938-46, Professorial Lecturer in Law 1946-. The George Washington University.

Subject: Municipal and Government Corporations

*LEROY SORENSON MERRIFIELD

Associate Professor of Law

A.B. 1938, LL.B. 1941, University of Minnesota, M.P.A. 1942, Harvard University. Administration Fellow, Graduate School of Public Administration, Harvard University 1941-42. Attorney, Office of Price Administration 1942. Attorney, Antitrust Division, U.S. Department of Justice 1946-47. Assistant Professor of Law 1947-48, Associate Professor of Law 1948-, Acting Dean of the Law School 1948-49, The George Washington University.

GEORGE EDWARD MONK

Professorial Lecturer in Law

A.B. 1928, LL.B. 1930, LL.M. 1934, The George Washington University. In Practice of Law with Darr and Darr, 1930-34, with Frank J. Hogan 1934-41, with Hogan & Hartson 1943-, Washington (D. C.); Allied Military Government, Sicily and Italy 1943-45; Lecturer in Law 1947-48, Professorial Lecturer in Law 1948-, The George Washington University.

Subjects: Wills, Moot Court

JAMES WARD MORRIS

Adjunct Professor of Law

A.B. 1912, University of North Carolina. In Practice of Law 1913-33; Special Assistant to the Attorney General 1933-34; Assistant Attorney General of the United States 1935-37, Associate Justice 1939-, United States District Court for the District of Columbia; Adjunct Professor of Law 1939-, The George Washington University.

Subject: Moot Court

JAMES OLIVER MURDOCK

Professor of Law

Ph.B. 1916, University of Chicago; LL.B. 1924, Harvard University. Certificate 1924, Academy of International Law at The Hague. In Practice of Law with Cadwallader, Wickersham and Taft 1924-25, New York City; Assistant U. S. Attorney 1925-27, Southern District of N. Y.; Assistant Solicitor and Assistant Legal Adviser 1927-36, U. S. Dept. State; Counsel for United States 1929-33, before International Joint Commission, United States-Canada; Secretary to American delegation 1928-29, International Conference of American States on Conciliation and Arbitration; Counsel for United States 1932, United States-Sweden Arbitration; in Private Practice of Law 1937-46; Chairman, 1935-37, A.B.A. Section of International and Comparative Law; Lecturer 1945 and 1948 sessions, Inter-American Academy of Comparative and International Law, Havana, and member of Curriculum; Lecturer in Law, 1939-43, Adjunct Professor of Law 1943-46, Professor of Law 1946-, The George Washington University.

Subjects: Comparative Law, International Law, International-Comparative Law Seminar, Criminal Law

FRANK HAMMETT MYERS

Adjunct Professor of Law

LL.B. 1923, LL.M. 1924, The George Washington University. In Practice of Law with Norman B. Frost and Frederic N. Towers, Washington (D. C.), 1924-48; Judge, Municipal Court of the District of Columbia 1948-; Adjunct Professor of Law 1948-, The George Washington University.

Subject: Moot Court

* On leave of absence 1949-50.

SAUL CHESTERFIELD OPPENHEIM*Professor of Law; Executive Officer*

A.B. 1918, A.M. 1920, Columbia University; J.D. 1926, S.J.D. 1929, University of Michigan. Instructor in Economics 1921-26, Teaching and Research Assistant to Dean of Law School 1926-27, University of Michigan; Assistant Professor of Law 1927-30, Associate Professor of Law 1930-40, Acting Dean, winter term 1948, Professor of Law 1940-46, The George Washington University; Editor-in-Chief, 1942-46, *The George Washington Law Review*.

Subjects: Unfair Trade Practices, Federal Anti-Trust Laws, Trade Regulation Seminar

HERMAN ISRAEL ORENTLICHER*Associate Professor of Law*

A.B. 1933, LL.B. 1936, Harvard University. In Practice of Law 1936-37; Law Clerk, U. S. Court of Appeals for the District of Columbia 1938; Attorney, U. S. Housing Authority 1939-43; Assistant General Counsel, National Housing Agency and Housing and Home Finance Agency 1944-48; Associate Professor of Law 1949-. The George Washington University.

Subjects: Legal Method, Negotiable Instruments, Contracts, Sales

CARL ROHRER PRICE*Professorial Lecturer in Law*

A.B. 1935, Vanderbilt University; A.B. 1939, Oxford University; LL.B. 1940, Yale University. Law Clerk, U. S. Court of Appeals for the Second Circuit 1940-41; in Practice of Law, Washington (D. C.), 1941-42; Law Clerk, U. S. Supreme Court 1942-47; Special Attorney, Bureau of Internal Revenue 1947-49; Assistant General Counsel, Department of the Treasury 1949-; Professorial Lecturer in Law 1948-. The George Washington University.

Subject: Federal Taxation

CHARLES SYLVANUS RHYNE*Professorial Lecturer in Law*

LL.B. 1937, The George Washington University. In Practice of Law, Washington (D. C.) 1937-; General Counsel, National Institute of Municipal Law Officers 1938-; Lecturer in Law 1945, American University; Professorial Lecturer in Law 1949-. The George Washington University.

Subject: Aviation Law

RAYMOND STEVENS SMETHURST*Professorial Lecturer in Law*

B.S. 1930, Harvard University; LL.B. 1934, The George Washington University. Member of legal staff 1934-41, General Counsel 1941-. National Association of Manufacturers; Professorial Lecturer in Law 1948-. The George Washington University.

Subject: Labor Law

CHARLES W. TAINTOR II*Visiting Professor of Law*

A.B. 1918, LL.B. 1935, LL.M. 1936, S.J.D. 1940, Harvard University. Instructor in Law 1931-37, Louisiana State University; Assistant Professor of Law 1937-38, University of Nebraska; Professor of Law 1939-42, University of Mississippi; Professor of Law 1942-. University of Pittsburgh; Visiting Professor of Law 1949-. The George Washington University.

Subjects: Conflict of Laws, Property

FRANCIS GERALD TOYE*Professorial Lecturer in Law*

B.S. in E.E. 1927, Clarkson College of Technology; LL.B. 1932, The George Washington University. Patent Attorney, General Electric Company 1931-; Professorial Lecturer in Law 1948-. The George Washington University.

Subject: Patent Law

WILLIAM CABELL VAN VLECK*Professor of Law*

A.B. 1908, LL.B. 1911, LL.D. 1948, The George Washington University; S.J.D. 1924, Harvard University. Member Summer Faculty 1924 and 1929 at University of Michigan; 1927 at Stanford University, 1934 at University of Chicago; one of the Advisers to the

Reporter on Conflict of Laws 1926-34, American Law Institute; Research Fellow 1930-31, Harvard University Law School; Instructor in Law 1912-16, Assistant Professor of Law 1916-19, Professor of Law 1919-21, Secretary of the Law School 1912-20, Acting Dean of the Law School 1923-24, Dean of the Law School 1924-49, The George Washington University.

Subjects: Conflict of Laws, Torts

THE DEAN'S COUNCIL •

Carville Dickinson Benson	Donald James Farage
John Patrick Burke	William Thomas Fryer
Charles Sager Collier	‡Leroy Sorenson Merrifield
Robert McKinney Cooper	James Oliver Murdock
James Forrester Davison	Saul Chesterfield Oppenheim
‡August Gottlieb Eckhardt	Herman Israel Orentlicher
William Cabell Van Vleck	

GENERAL INFORMATION

The George Washington University Law School, established in 1826, discontinued, and reorganized in 1865, is the oldest law school in the District of Columbia. Its course of instruction is planned to fit its graduates for the practice of law in any of the states of the United States. It is also designed to prepare students for public service as lawyers in the Federal Government or the governments of the states. In 1900 the School took part in the organization of the Association of American Law Schools and it has been a member of the Association since that time. The School is approved by the Council of Legal Education of the American Bar Association.

ORGANIZATION OF THE ACADEMIC YEAR

The work of the year is organized into three terms known as the fall term, winter term, and summer term. The summer term is divided into two eight-week sessions, which together constitute a full term.

THE LIBRARY

The Law Library of 27,000 volumes contains the official reports of the decisions of the courts of last resort of all the states prior to the National Reporter System and of fourteen states complete to date; the National Reporter System, complete; the reports of the United States Supreme Court and lower federal courts, and the reports of federal administrative agencies; Shepard's Citations for the units of the Reporter System; the English Reprint and English Law Reports; the United States Statutes; the United States Code, Annotated, and the Federal Code, Annotated; reasonably complete sets of statutes of all of the states; the English statutes; the principal English and American

* The President of the University and the Dean of the Law School are *ex officio* members of the Council.

‡ On leave of absence 1949-50.

digests and encyclopedias; collections of special reports and annotated cases; and the leading textbooks and legal periodicals.

The Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday, 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.

THE LAW REVIEW

The George Washington Law Review, published by the University, is edited by the Faculty and students of the Law School. It is devoted exclusively to state and federal public law. The location of the University in the National Capital, where federal public law may be observed in operation, affords an unexcelled opportunity for specialization in this field.

The *Review* is edited by a faculty editor-in-chief, a faculty board of associate editors, a board of departmental advisory editors, and a board of student editors. The student editors are chosen each year on the basis of scholarship.

RESEARCH IN PUBLIC LAW

Washington, the capital of the Nation, furnishes unsurpassed advantages for research in the fields of public law. In it are the offices of the major executive departments, the Congress, the Supreme Court of the United States, and lower federal courts. In the executive departments and among the many independent establishments of the Federal Government there have been estimated to be between seventy-five and one hundred agencies, the activities of which involve the various branches of public law, particularly administrative law. The student of public law can study at first hand the work of these administrative agencies. He also has available as sources for investigation their records of administrative adjudications.

Research in public law will be conducted under the supervision of members of the faculty. The purpose of this research is to furnish means for training specialists in public law, either as government lawyers or as lawyers representing individuals or corporations in cases in which the Government is a party, and to assist in the analysis, clarification, formulation, and improvement of public law, substantive and procedural.

Candidates for the graduate degrees in the Law School and seniors who are eligible for the degree of Juris Doctor may pursue this work. Other students may be admitted with the special permission of the professor in charge.

COURSE OF STUDY FOR FOREIGN LAWYERS

This course of study is designed to meet the needs of lawyers who come from countries the legal systems of which are based on the Roman or Civil Law. It attempts to provide for such students a course suffi-

cient to enable them to acquire an understanding of the fundamentals of the common law so that they may work intelligently with common law materials and common law practitioners. In this program the students are not assigned to special classes but work in association with other students in the regular law subjects. No fixed program of required courses is attempted, but each student is permitted to work out a program best adapted to his individual needs.

THE STUDENT BAR ASSOCIATION

Every student in the Law School is automatically a member of the Student Bar Association, the purpose of which is to enable the student to become better acquainted with problems of the profession, to develop better professional ideals, and to bring about closer contact with members of the profession engaged in active practice of the law.

The work of the Student Bar Association is carried on by various committees and by group and general meetings of a professional and social nature. From time to time lectures are given by outstanding authorities on legal and professional problems.

Each member of the Student Bar Association receives a subscription to *The George Washington Law Review*.

PRACTICE AND PRACTICE COURT

The curriculum is planned to include such training in the fundamentals of practice as is feasible in a law school. Classroom instruction is conducted in the theories of pleading and procedure, trial and appellate practice, and evidence. This instruction includes grounding in the principles of the new Federal Rules of Civil Procedure. In addition each senior student is required to participate in the work of the Practice or Moot Court. This includes trying a specified number of cases, both as a senior counsel and junior counsel. For students who are planning to practice patent law, a special section of the court is devoted exclusively to the trial of patent cases. Experience in preparing and arguing appellate court cases is also available through the Case Club Competition.

ORDER OF THE COIF

The Order of the Coif, a national honor society with chapters in thirty-eight law schools, aims "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship". The George Washington University Chapter was established in 1926. Members are elected each year from the highest-ranking 10 per cent of the graduating class of the Law School.

ADMISSION

APPLICATION FOR ADMISSION

An applicant for admission must obtain from the Office of the Director of Admissions an application blank which he must fill out completely and return.

A recent photograph, with signature, of the applicant must be attached to the blank.

To insure prompt action, application should be filed not later than July 1 for the fall term, January 1 for the winter term, and May 1 for the summer term.

The applicant must request the registrar of each higher institution previously attended to mail directly to the Office of the Director of Admissions the transcript of his record, *even though credits were not earned*, together with an honorable dismissal from the institution last attended. The student must be in good standing as to scholarship and conduct, and must be eligible to return to the previously attended institution in the term for which he or she seeks admission to The George Washington University.

REQUIREMENTS FOR ADMISSION

For the Degrees in the Professional Course

Bachelor of Laws and Juris Doctor†.*—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university is required. From the applicants fulfilling the basic requirement of a college degree, a selection will be made by the Committee on Admissions.

ADVANCED STANDING

Advanced standing toward the degree of Bachelor of Laws may be granted for work successfully completed in other law schools which are members of the Association of American Law Schools.

Applicants for admission with advanced standing must file certified transcripts of record showing high school, college, and law credits. The right is reserved to refuse such credit, in whole or in part, or to allow it conditionally or after examination, and credit given may be withdrawn for subsequent poor work. No student admitted with advanced standing will be recommended for the degree of Bachelor of Laws until he has completed in this School at least one full year of residence and passed successfully twenty-eight credit hours with the required average for the

* Two years of college work, that is, not less than one-half the work necessary for graduation from an approved college or university will be accepted as satisfying the admission requirements for students who served for 20 months in the armed forces of the United States during World War II and who have been in regular and continuous attendance at this University since the beginning of the 1948 fall term.

† A Bachelor's degree which includes credits for work done in this or any other Law School will not satisfy the admission requirement for this degree.

degree. No student will be admitted who has been in attendance at another law school and who is ineligible, because of poor scholarship, to return to that school.

Students planning to attend summer school sessions at other law schools and desiring to use credits obtained at such schools in their course at this Law School must first have the courses they wish to take approved by the Dean. In no event will credits be recognized in excess of those which might be obtained in a similar period in this School.

Advanced standing toward the degree of Juris Doctor for work in other law schools will not be granted.

For the Degrees in the Graduate Course

Candidates for graduate degrees must be accepted by the Committee on Graduate Studies.

*Master of Laws.**—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university and the degree of Bachelor of Laws, or the equivalent, from an approved law school are required.

Master of Comparative Law.—The following are required: (1) the successful completion of and graduation from a course in arts, philosophy, letters, or sciences, equivalent to graduation from a gymnasium, lycee, or liceo (junior college); and (2) graduation in law from a recognized foreign university where the legal training was in Civil Law.

Doctor of Juridical Science.—The following are required: (1) the degree of Juris Doctor from this Law School, or (2) the degree of Bachelor of Arts from an approved college, the degree of Bachelor of Laws or the equivalent, earned with high rank, from an approved law school, and outstanding capacity for scholarly work in the field of law.

Unclassified Students

A person eligible for admission to regular standing but not a candidate for a degree may, at the discretion of the Dean, be admitted as an unclassified student.

A person who is in good standing as a candidate for a degree in another approved law school may, at the discretion of the Dean, be admitted as an unclassified student. Work taken by an unclassified student will not be accepted for credit toward a degree at this Law School.

REGISTRATION

Before attending classes each student must present himself in person for registration. No student will be registered in the Law School until

* Two years of college work, that is, not less than one-half the work necessary for graduation from an approved college or university will be accepted as satisfying the admission requirements for students who served for 20 months in the armed forces of the United States during World War II and who have been in regular and continuous attendance at this University since the beginning of the 1948 fall term.

proper credentials have been filed and approved (see "Admission", above).
Registration is for the term or session only.

A late-registration fee of \$5 will be charged each student who is permitted to register after the regular registration days.

Registration may be changed only with the permission of the Dean.

FEES AND FINANCIAL REGULATIONS

Application fee, non-refundable.....	\$3.00
Tuition fee, for each credit hour.....	12.00
For the degree of Doctor of Juridical Science:	
For work leading to and including the final examinations.....	360.00
Student Bar Association fee, for each term, or any part thereof except the summer term.....	2.00
Graduation fee.....	20.00
Fee for printing and filing summary of doctoral dissertation.....	50.00
Fee for special examinations, for each subject.....	5.00
Late-registration fee, charged each student who fails to register within the designated period.....	5.00
Service fee for late payment of tuition, see "Payment of Fees".....	1.00
Reinstatement fee, charged each student who is reinstated after being suspended for delinquency in fees.....	5.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of three certified transcripts of record, if and when desired; (2) the services of the Placement Office; (3) the use of University library facilities, except as otherwise designated; (4) gymnasium privileges; (5) admission to all athletic contests, unless otherwise specified; (6) subscription to the *University Hatchet*, the student newspaper; (7) admission to University debates; (8) medical attention and hospital services as described under "Health Administration", pages 25 and 26. These privileges, however, with the exception of the issuance of transcripts, terminate, and a student is no longer in residence, when he withdraws or is dropped from the University.

PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each term are due and payable in advance at the time of registration.

Subject to the approval of the Comptroller, a student may sign a contract for term charges, except for fees payable in advance, permitting payments as follows:

Fall Term.—One third at the time of registration; one third on November 3; one third on December 3.

Winter Term.—One third at the time of registration; one third on March 3; one third on April 3.

A student who fails to meet payments when due but who pays his fees on or before the tenth day of the month in which payment is due is

charged a service fee of \$1. A student who fails to meet payments by the tenth day of the month in which payment is due will be suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5. A suspended student may not be reinstated for the term after two weeks from the date of suspension. Applications for reinstatement are to be made to the Dean.

WITHDRAWALS AND REFUNDS

Application for withdrawal from the University or for change in class schedule must be made in person or in writing to the Dean. Notification to an instructor is not an acceptable notice.

In authorized withdrawals and changes in schedules, financial adjustments will be made as follows:

Fall Term.—Withdrawal dated on or before October 31, cancellation of two-thirds of tuition charges; withdrawal dated on or before November 30, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to November 30.

Winter Term.—Withdrawal dated on or before February 28, cancellation of two-thirds of tuition charges; withdrawal dated on or before March 31, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to March 31.

In no case will a refund be made of the first third of the total tuition charges unless the registration is in advance and the course is dropped before the regular registration day. In this case a withdrawal fee of \$5 is charged and tuition fees are refunded. In no case will tuition be reduced or refunded because of nonattendance upon classes.

Payment applies only to the term for which a registration charge is incurred and in no case will this payment be credited to another term.

Authorization to withdraw and certification for work done will not be given a student who has not a clear financial record.

SCHOLARSHIPS, PRIZES, LOAN FUNDS

Charles Worthington Dorsey Memorial Scholarship.—This scholarship, established as a memorial to Charles Worthington Dorsey, Bachelor of Laws '81, Master of Laws '82, is awarded upon the recommendation of the Faculty of the Law School to a needy and promising graduate of Columbian College or other division of the University, with a Bachelor of Arts or other equivalent degree, who has maintained an average of *B* as an undergraduate student and who desires to pursue the study of law as a full-time student. The scholarship covers tuition for the course leading to the first degree from the Law School, Bachelor of Laws or Juris Doctor, provided that the holder maintains an average of *B*. The

right is reserved to suspend the benefits of the scholarship for cause at any time. The scholarship is awarded ordinarily once every three years.

All other scholarships are administered by the University Committee on Student Loans and Scholarships.

The following prizes are awarded annually in the Law School:

Ellsworth Prize.—The Ellsworth Prize of \$25, established by the late Mr. Fritz von Briesen, is awarded to the student doing the best work in the subject of Patent Law Practice.

John Bell Larner Prize.—This prize, established by the bequest of John Bell Larner, consists of a medal which is awarded annually to that member of the graduating class in the Law School who attains the highest average grade in the entire course for the degree of Bachelor of Laws.

John Ordronaux Prizes.—These prizes were established in 1909 by the bequest of John Ordronaux. The amount of \$35 is awarded annually to the student in the Law School who has attained the highest average grade in the first-year, full-time course; and \$35 to the student who has attained the highest average grade in the second-year, full-time course.

Through the generosity of friends of the University a number of loan funds are available to students in the Law School. Among them is the Henry Strong-William A. Maury Loan Fund established by the Henry Strong Educational Foundation in memory of Henry Strong and William A. Maury. Application for loans should be made to the Comptroller of the University.

REGULATIONS

Students in the Law School are subject to, and are expected to familiarize themselves with, the general University regulations stated in the University Catalogue.

AMOUNT OF WORK

Students without substantial outside employment may take a full-time program of studies in which the majority of credit hours must be in morning sections. Students with substantial outside employment must take a limited program of studies not exceeding ten hours a week.

ATTENDANCE

Regular attendance on classes is required and is necessary for successful work. A student who is deficient in class attendance in any subject may, by action of the Dean's Council, be barred from taking the examination in that subject.

RESIDENCE REQUIREMENTS

A year's attendance in the evening classes is counted as residence for three fourths of a year. A student admitted with advanced standing must complete at least one year of residence in this School and pass

twenty-eight credit hours with the required average for the degree. A full-time student enrolled in a schedule of less than ten hours a week will receive residence credit in the ratio that the hours passed bear to ten. A part-time student enrolled in a schedule of less than six hours a week will receive residence credit in the ratio that the hours passed bear to six.

GRADES

Grades are indicated by the letters *A*, excellent, 85-100; *B*, good, 75-84; *C*, satisfactory, 65-74; *D*, poor 55-64—below standard for graduation; and *F*, failed—below 55.

The grades *A*, *B*, *C*, and *D*, mean that the work has been completed and credit given for the subjects.

F, failed, means that no credit will be given. To obtain credit the student must repeat the subject; but a student who has obtained an average of *C* in the work of the calendar year and received a grade of *F* in only one subject may take the next regular examination in that subject, and if on such reexamination he obtains a passing grade he will be given credit in the subject. Both grades are recorded.

EXAMINATIONS

Written examinations are held at the end of each course. Every student is required to take the regular examinations in the subjects pursued, unless excused. No excuse for absence will be granted except by the Dean and then only for illness or other emergency. Application for excuse must be made in writing not later than one month after the date of the examination. A student thus excused may take the next regularly scheduled examination in the subject for which the excuse has been granted.

No special examinations will be given; except that, upon written application to the Dean's Council, showing sufficient cause, a candidate for a degree at a convocation before the next regular examination, if he would be entitled to take a postponed examination, may, at the discretion of the Dean's Council, be given a special examination.

If a student fails to take an examination, a grade of *F* will be recorded, to be counted as a zero in computing the student's average, unless the student has either obtained the Dean's permission to withdraw from the course or to be excused from the examination.

EXCLUSION AND PROBATION FOR POOR SCHOLARSHIP

A student who during a calendar year (from the beginning of the summer term to the end of the winter term) fails in courses aggregating eight or more credit hours will be excluded. Such a student is not eligible to be registered in the Law School or to attend classes. He may, however, be admitted to the next regular examinations in those

subjects in which he has made a grade below passing, and if he receives a grade of passing in these subjects with an average sufficient to make his general average not less than *C*, he will be reinstated.

A student not subject to exclusion under the foregoing rule who at the end of a calendar year has failed to maintain a general average of at least *C*, will be on probation during the next calendar year. A student on probation may at the discretion of the Dean be required to reduce his program of study. A student on probation will be excluded at the end of the probationary year unless he has made grades sufficient to give him a general average of at least *C*.

The general average of a student includes all the grades in all the subjects taken while he is in the Law School working for a particular degree. When a subject is repeated or a reexamination is taken, both the first grade and the subsequent grade or grades are counted in the general average.

In special cases in which it is clear that the student's failure does not indicate lack of ability to pursue the study of law, the student who has become subject to exclusion may be readmitted by vote of the Dean's Council of the Law School.

No student is put on probation or excluded after only one term of Law School work.

CLASSIFICATION OF STUDENTS

Students are divided into classes on the completion of credit hours as follows: first year, one through twenty-eight; second year, twenty-nine through fifty-six; third year, fifty-seven or more.

RIGHT TO DROP STUDENTS

The right is reserved by the University to drop any student from the University or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable to do so.

STUDENT LIFE

LIVING ACCOMMODATIONS

Women Students.—Women students under twenty-one years of age who are enrolled for twelve or more credit hours of academic work in the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In the women's residence halls, single rooms are \$30 and \$35 a month; double rooms are \$23 and \$28 a month a person. Meals are served at the Student Union. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women.

Men Students.—Welling Hall provides double room facilities for 102

students. Dining facilities are available to all residents of this dormitory. Rooms rent for \$24 a month a person. Single and double rooms are provided for 203 students in Draper and Bradley Halls. These are temporary dormitories and residence is restricted to veterans of World War II who are enrolled for a minimum of twelve credit hours of academic work in the University. Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married veteran students and their families subject to the same requirements for tenancy as above. Meals are served at the Student Union.

Application forms for reservations may be obtained from Director of Activities for Men.

Information concerning private rooming and boarding facilities near the University for women students twenty-one years of age or older and for men students may be obtained at the office of the Director of Activities for Women and the Director of Activities for Men. The reservation of rooms in private houses must be made by students.

STUDENT EMPLOYMENT

The prospective student who expects to earn any part of his expenses and who does not have a definite appointment to a position should have the means of support for at least one term.

Many out-of-town students secure positions in the departments of the Government in Washington by taking the United States Civil Service examinations in their home states.

Students wishing full- or part-time employment should apply at the Placement Office, 2131 G Street NW.

The Student Bar Association of the Law School also assists students in securing part-time employment which offers experience in preparation for the practice of law.

HEALTH ADMINISTRATION

The University maintains a health service that is primarily diagnostic in its intent. For medical emergencies and health consultations there is, on the Campus, a Student Health Clinic open from 9:00 A.M. to 5:00 P.M., with physician and nurse in attendance. There is also a rest room for women, with a graduate nurse in charge.

Medical privileges include: (1) the physical examination of every student entering from secondary school; (2) three visits by the University physician or surgeon, office or residence (District of Columbia) in any one illness, exclusive of a specialist, surgical operation, laboratory, or X-ray examination; (3) hospitalization, including board, medicine, and nursing in the University Hospital for not more than one week during a school year—the necessity to be determined by the Director of Health

Administration. The duration of hospitalization period (maximum, two weeks) is also to be determined by the Director of Health Administration.

This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of tuition fees.

The student is allowed if he so desires, to engage physicians and nurses of his own choice, but when he does so he will be responsible for the fees charged.

Rules: (1) The Director of Health Administration is empowered to limit or deny the medical benefits where, in his discretion, a student has, by his misconduct or breach of the rules of the University, made himself ineligible; (2) the Director of Health Administration has authority to determine the necessity and length of hospitalization; (3) a student who has severed his connection with the University is ineligible for medical benefits; (4) a student intending to train for an athletic team is required to pass a thorough examination at the beginning of each term; (5) the above regulations apply also during the summer term of the University.

The University is not responsible for injuries received in inter-collegiate or intra-mural games, or in any of the activities of the departments of physical education.

PLACEMENT SERVICE FOR GRADUATES

The Law School takes a continuing interest in the placement of its graduates. The Dean and faculty cooperate with the Placement Committee of the Student Bar Association in assembling information regarding opportunities for legal positions throughout the country. A register of openings for graduates is maintained based upon information received from alumni of the school, law firms, and government agencies. Students are invited to discuss their placement problems with the appropriate Law School officials and to file applications during their senior year in the Office of the Dean.

THE DEGREES

IN THE PROFESSIONAL COURSE

These degrees are Bachelor of Laws (LL.B.) and Juris Doctor (J.D.)

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF LAWS

To be recommended for this degree the student must have completed: a residence period of not less than three academic years on a full-time basis (four years on a part-time basis) in an approved law school, the last year to be in this School; and eighty credit hours with a general average of at least *C*, in courses described on pages 33-39, including the course in Moot Court.

*Combined Degrees of Bachelor of Arts and Bachelor of Laws.**—A candidate for the combined degrees of Bachelor of Arts and Bachelor of Laws must: (1) complete three years of satisfactory college work; (2) fulfill the residence requirement of at least thirty credit hours of Columbian College, the School of Government, or the School of Education; (3) obtain the approval of the Dean of the college concerned at the time of entering the Law School; (4) complete, without a failure in any subject and with an average grade of not less than middle C, the work of the first year in the Law School. The degree of Bachelor of Arts will be conferred at the end of the first year in the Law School, provided the above conditions have been satisfied. The degree of Bachelor of Laws will be conferred upon the satisfactory completion of the law course. Law school work taken at another institution will not satisfy the law requirement for the combined degrees.

*Combined Degrees of Bachelor of Science in Engineering and Bachelor of Laws.**—For those students who desire to enter the branches of the legal profession in which a background in engineering is necessary a six-year curriculum is offered, leading to the combined degrees of Bachelor of Science in Engineering and Bachelor of Laws. A candidate for the combined degrees must conform to the residence and scholarship requirements of the School of Engineering throughout the period of preparation for the degree in engineering. His scholarship level for the junior and senior years must be acceptable to both the School of Engineering and the Law School. During the junior and senior years he must complete: (1) the required courses in engineering, (2) the 28 credit hours of courses required in the first year of the Law School, and (3) such electives as he needs to satisfy the 140 credit-hour requirement for the degree in engineering. The first year work in the Law School must be completed without a failure in any subject and with an average grade of not less than middle C. Upon the satisfactory completion of the senior year, the degree of Bachelor of Science in Engineering will be conferred. The student will then continue his studies in the Law School; upon the satisfactory completion of which the degree of Bachelor of Laws will be conferred.

REQUIREMENTS FOR THE DEGREE OF JURIS DOCTOR

This degree is conferred as a recognition of the completion at the George Washington University Law School, with high rank, of the full professional course of not less than three full years (four years on a part-time basis) including experience in research and legal authorship.

* Registration for work toward the combined degrees is limited to (1) regular students of the University in continuous attendance since the 1947 winter term registration, (2) students who have completed not less than 30 months of continuous service in the armed forces of the United States during World War II and who have been in regular and continuous attendance at this University since the beginning of the 1948 fall term.

To be recommended for this degree the student must have completed: (1) a residence period of not less than three academic years on a full-time basis (four years on a part-time basis) in the Law School; (2) eighty credit hours with a general average of at least *B*, in courses described on pages 33-39, including the course in Moot Court and one of the following courses: Comparative Law, Jurisprudence, or one of the graduate seminars; and (3) one year of acceptable service on the board of student editors of *The George Washington Law Review*, election to which is subject to regulations laid down by the faculty. Students taking the combined Arts and Law or Engineering and Law course are not eligible for this degree.

HONORS

The degree of Bachelor of Laws or of Juris Doctor "with distinction" will be awarded the student who obtains a general average of *A* in the work for the degree.

IN THE GRADUATE COURSE

These degrees are Master of Laws (I.L.M.), Master of Comparative Law (M.Comp.L.), and Doctor of Juridical Science (S.J.D.).

REQUIREMENTS FOR THE DEGREE OF MASTER OF LAWS

To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed with a satisfactory average twenty credit hours of subjects in the graduate curriculum. In individual cases, third- or fourth-year subjects listed in the professional curriculum may be included in the program of study. All requirements for this degree must be completed in this Law School in a period not exceeding two academic years.

REQUIREMENTS FOR THE DEGREE OF MASTER OF COMPARATIVE LAW

To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed satisfactorily twenty-four credit hours of approved subjects in the curriculum of the Department of Law or of such other departments of the University as the faculty of the Law School shall approve.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have pursued a course of study and research designated by his consultative committee and approved by the Committee on Graduate Studies. At

the conclusion of his first year of residence, or at such other time as the Committee on Graduate Studies may set, the candidate must pass an oral examination in those fields of study selected by the consultative committee. This examination shall be conducted by the consultative committee and such other members of the faculty and qualified experts from other research institutions as may be selected by the Committee on Graduate Studies.

Not later than the date specified in the University calendar the candidate must submit to the Dean one typewritten original and two legible and complete carbon copies of his dissertation in its final form. The dissertation must contain a summary of from 2,500 to 3,000 words inserted as an appendix. An additional original typewritten copy of this summary must be submitted for publication. To be acceptable the dissertation must, in the opinion of the examining committee, constitute a substantial contribution to the field of law concerned and be suitable for publication. Additional information will be supplied by the Chairman, Committee on Graduate Studies.

The summaries of accepted theses will be printed in a volume forming a number of the University BULLETIN. The successful candidate for the doctorate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.

COURSES OF INSTRUCTION

COURSES OF INSTRUCTION

The courses of instruction listed below are subject to change. The University reserves the right to withdraw any course announced.

The number which precedes the name of a course indicates the term in which that course is offered. An odd number indicates that the course is offered in the fall term; an even number, that it is offered in the winter term; and a double number (e.g., 241-42), that it begins in the fall and continues in the winter term. The letter "x" following an odd course number (e.g., 141x) indicates that the course, normally offered in the fall term, is given in the winter term. The letter "x" following an even course number (e.g., 112x) indicates that the course, normally offered in the winter term, is given in the fall term.

First-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third year courses, from 301 to 400; and graduate courses, from 401 to 500.

The number of hours of credit given for the satisfactory completion of a course is indicated in parentheses after the name of the course. Thus, a year course giving two hours of credit each term is marked (2-2), and a term course giving two hours of credit is marked (2).

Morning classes begin at 9:10 a.m. Evening classes begin at 5:50 p.m.

102 *Agency* (2) Cooper, _____
Problems of agency in the conduct of business. Seavey, *Cases on Agency*. Morning and evening sections.

112x *Contracts* (4) Orentlicher, _____
Promissory obligation: offer and acceptance, consideration, statute of frauds, formal instruments, rights of third parties, assignments, joint obligations, conditions, performance, discharge. Casebook to be announced. Morning and evening sections.

123 *Criminal Law and Procedure* (4) Murdock, Cooper
Elements of criminal liability; specific crimes; combinations of persons in crime; criminal procedure. Harbo, *Cases and Materials on Criminal Law and Procedure*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)

129-30 *Legal Method and Legal System* (2-2) Fryer, Benson, _____

Introduction to study of substantive and procedural law. Examination of basic concepts with training in method and technique of case law, based upon modern records in state and federal cases and individual practice in the use of law books and legal writing. Importance of language in law and legal reasoning, both apart from and in connection with statutory interpretation and as affected by the use of precedents, under the doctrines of stare decisis, law of the case, and

res judicata. Background on development of the English and American legal systems; organization of the judiciary and the bar, stressing enforcement of ethical standards. Fryer and Benson, *Cases and Materials on Legal Method and Legal System*. Morning and evening sections. (Also offered 1949 summer term.)

Law 129x—same as Law 129, but offered winter term. Morning and evening sections.

- 133 *Property I* (4) Fryer, ———
 Concepts of property, possession, and ownership; legal relations with respect to chattels and documentary intangibles created by gift, sale, pledge, lien, bailment, etc. Fraser, *Cases on Property*, Vol. II, 2d ed.; Fryer, *Readings on Personal Property*, 3d. ed. Morning and evening sections.
- 138 *Property II* (4) Benson, Taintor
 Real property; introduction; estates, seisin, landlord, and tenant; future interests at common law and under the statutes of uses and wills; merger, elementary study of remoteness and powers; adverse possession; prescription; natural rights. Fraser, *Cases on Property*, Vols. I and II, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 141x *Torts* (4) Van Vleck, ———
 Civil liability for harms to legally protected interests. Thurston and Seavey, *Cases on Torts*. Morning and evening sections. (Also offered 1949 summer term.)
- 205x *Civil Procedure* (4) Burke, Farage
 Function and composition of pleadings, including their relation to proof. Emphasis is upon reforms, as exemplified by modern code provisions and the Federal Rules of Civil Procedure. Clark, *Cases on Pleading and Procedure*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 214x *Constitutional Law* (4) Collier, Farage
 Historical introduction; judicial approach and methods; doctrine of the separation of powers; powers of the National Government; the federal system; relation of the state courts and the federal courts. Dodd, *Cases on Constitutional Law*, 3d ed. Morning and evening sections.
- 223x *Domestic Relations* (2) Compton, ———
 Marriage, annulment, and divorce; rights of husband and wife; rights of parent and child; infants; conflict of laws involving problems of marriage evasion and migratory divorce. Madden and Compton. *Cases on Domestic Relations*. Morning. (Also offered 1949 summer term.)
- 231 *Equity* (4) Burke, ———
 Specific performance of contracts; equitable conversion; statute of frauds; mutuality; conditions; defenses; equitable servitudes; powers of an equity court; effect of decrees, interpleader, bills of peace, cloud on title, rescission and reformation, mistake. Chafee and Simpson. *Cases on Equity*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)

- 234 *Evidence* (4) Fryer
Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity and contents of writings. McCormick, *Cases on Evidence*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 246 *Negotiable Instruments* (4) Orentlicher
Bills of exchange, promissory notes and checks, especially under the Negotiable Instruments Law. Casebook to be announced. Morning and evening sections. (Also offered 1949 summer term.)
- 248x *Property III* (2) Benson, _____
Conveyances, rents, easements, profits, licenses, covenants running with the land, and recording. Kirkwood, *Cases on Conveyances*, 2d ed. Morning and evening sections.
- 251 *Restitution* (4) _____
Legal remedies for restitution of benefits obtained or conferred by performance of contract, misrepresentation, mistake, and coercion. Summer term 1949.
- 253x *Unfair Trade Practices* (4) Oppenheim
Unfair trade practices at common law and under state and federal statutes. Trade-marks and trade names, including Trade Mark Act of 1946. Misappropriation. False advertising at common law. Federal Trade Commission jurisdiction over misrepresentation practices. Lotteries and premiums. Disparagement of competitor's goods and business methods. State Fair Trade Acts (resale price maintenance). Price discrimination (State and Federal Robinson-Patman Act) State statutes, prohibiting sales below cost. Inducing breach of contract. Commercial bribery. Miscellaneous business torts constituting unprivileged interferences with advantageous business relations. Oppenheim, *Cases on Unfair Trade Practices*. Morning and evening sections.
- 254x *Wills* (2) Benson, _____
Formation and revocation of wills; testate and intestate succession. Mechem and Atkinson, *Cases on Wills and Administration*, 3d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 256 *Sales* (2) Orentlicher, _____
Common law, Uniform Sales Act and related statutes. Intention to transfer of property interest (specific, unascertained, and future goods); specification and appropriation; cash and conditional sales; C.O.D., F.O.B., and C.I.F. shipments; negotiable bills of lading and warehouse receipts; trust receipts; fraud on seller, retention of possession and bulk sales; remedies of seller and buyer, including suit for price, stoppage in transit, seller's warranties; inspection. Boyert, *Cases on Sales*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 303-4 *Administrative Law* (2-2) Davison
Legislative setting for administrative bodies; judicial control of administrative action, public utilities, taxation, alien laws. Federal Trade Commission, workmen's compensation, etc. Katz, *Cases on Administrative Law*. Morning section (2-2)—fall and winter terms; evening section (4)—fall term.

- 311-12 *Corporations* (2-2) Dorsey, Cooper
Legal requirements as to contributions of capital; powers and rights of corporations, corporate officials, and shareholders. Berle and Warren, *Business Organization—Corporations*. Morning and evening sections. (Also offered 1949 summer term.)
- 315 *Conflict of Laws* (4) Van Vleck, Taintor
Study of cases involving foreign elements; principles of jurisdiction and limitations upon its exercise; procedure, torts, workmen's compensation, contracts, property, family law, administration of estates, business associations. Casebook to be announced. Morning and evening sections. (Also offered 1949 summer term.)
- 317 *Creditors' Rights* (4)
Remedies of unsecured creditors: judgments, fraudulent conveyances, creditors' agreements, equity and statutory receiverships, and bankruptcy. The general approach is that of law administration.
Summer term 1949.
- 321-22 *Current Decisions* (2-2) Davison
Required of, and limited to, members of the student staff of the *Law Review*. Time to be arranged.
- 324 *Federal Jurisdiction* (2) Cooper
Constitutional origins and powers of federal courts; sources of law applicable to them; business and extent of jurisdiction of federal courts. McCormick and Chadbourn, *Cases on Federal Courts*. Morning and evening sections.
- 326 *Insurance* (2)
The insurance device in life, property, and other risks. Vance, *Cases on Insurance*, 3d ed. Morning. (Also offered 1949 summer term.)
- 328 *International Law* (4) Murdock
Customary and treaty rights and duties of states; diplomatic and consular agents; treaty interpretations; nationality laws; international courts; claims procedure; war; neutrality. Hudson, *Cases on International Law*, 2d ed. Morning and evening sections.
- 329-30 *Labor Law* (2-2) Smethurst
Laws applicable to strikes, picketing, boycotts, etc.; organization and representation of employees; negotiation of collective bargaining contracts; inter-union and intra-union relations; settlement of wage disputes (arbitration, mediation, conciliation). Cases, legislative and administrative materials, readings. Evening. (Also offered 1949 summer term.)
- 332 *Legal Accounting* (2)
A study of elementary accounting principles and techniques, and an introduction to the interpretation of financial statements. Evening.

- 333-34 *Legislation* (2-2) Ellis
Justiciable aspects of the legislative process; forms and types of statutes; principles of statutory interpretation, structure, and drafting. Read & McDonald, *Cases and Materials on Legislation*. Evening.
- 335-36 *Moot Court* (2-2) Laws, Morris, Craighill, Kirkland, Edgerton, Myers, Marshall, Jackson, Herrick, Monk
To be taken in the senior year. Prerequisite: Law 205 and 234. Morning and evening sections.
- 345 *Patent Law* (2) Toye
Substantive patent law; patentability; revision, use and enforcement of patents. Evening.
- 346 *Patent Office Practice* (2) Henry
Rules of Practice; appeal and interference procedure. Evening.
- 349-50 *Patent Moot Court* (2-2) Henry
This course may be elected instead of Law 335-36 to satisfy the Moot Court requirement. Both subjects may not be counted toward a degree. Evening.
- 351 *Public Utilities* (2) Davison
Limits of regulation of businesses affected with public interest; ascertainment of value of property used for the public service and the fixing of adequate rates of return. Welch, *Cases on Public Utilities*, 3d ed. Evening.
- 358 *S.E.C. Aspects of Corporate Finance* (2) Loss
Federal and state regulation of the distribution of securities, the securities markets, and the corporate structure, management of public utility and investment companies. Primarily the aspects of corporate finance dealt with by the Securities and Exchange Commission. Evening.
- 362x *Security Transactions* (4)
Security interests in real and personal property, their creation, transfer, enforcement, and extinguishment, together with security problems in the fields of suretyship and bankruptcy. Casebook to be announced. Morning and evening sections.
- 373x *Taxation* (4) Collier
Introductory course on basic concepts of federal tax system. Attention given state inheritance and income taxes. Problem of jurisdiction to tax, construction of tax statutes, methods of judicial review of administrative actions in the tax field, modern excise taxes on business concerns. Magill and Maguire, *Cases on Taxation*, 4th ed. Morning.
- 375-76 *Taxation—Federal* (2-2) Price
Federal income, gift and estate taxes, and selected federal tax problems. Evening.

- 378x *Federal Anti-Trust Laws* (4) Oppenheim
 Restraints of trade at common law. Public policy under Sherman Anti-Trust Act of 1890 and Federal Trade Commission and Clayton Acts, including mergers, consolidations and monopoly. Loose association activities (price-fixing agreements, trade associations, international cartels). Specific practices such as resale price maintenance, delivered price systems, exclusive arrangements and tying devices, trade boycotts. Patents and copyrights under anti-trust laws. Remedies. Oppenheim, *Cases on Federal Anti-Trust Laws*. Morning and evening sections.
- 381 *Trusts* (4) Dorsey, ———
 Creation, elements, administration, enforcement, termination. Liabilities to and of third persons. Resulting and constructive trusts. Bogert, *Cases on Trusts*. Morning and evening sections.
- 403-4 *Administrative Law Seminar* (2-2) Davison
 Research seminar course in special problems, including the study of specific administrative agencies, federal or state. Time to be arranged.
- 406x *Aviation Law* (2) Rhyné
 Procedure before Civil Aeronautics Board; legal problems arising in connection with air transportation and airports; international conventions and organizations. Evening.
- 407 *Admiralty* (2) ———
 Federal and state jurisdiction; jurisdiction over waters, craft, contracts, torts, crimes, in equitable matters, etc.; laws applicable to maritime workers and maritime liens. Sayre, *Cases on the Law of Admiralty*. Morning.
- 415 *Comparative Law* (4) Murdock
 Historical and comparative study of some of the institutions and principles of the Roman and modern Civil Law (law of South and Central America and most of the Continent of Europe) compared with those of the Common Law; the influence of the former upon the latter. Evening.
- 421 *Constitutional Law Seminar* (2) Collier
 Research seminar in contemporary problems in constitutional law. Time to be arranged.
- 430 *International—Comparative Law Seminar* (2) Murdock
 Research seminar in contemporary problems. Time to be arranged.
- 434x *Interstate Commerce Commission Law and Procedure* (2) ———
 Interstate Commerce Act; the Interstate Commerce Commission; practice and procedure before the Commission. Evening.
- 435x *Jurisprudence* (2) Collier
 History of jurisprudence; schools of jurists, particularly the nineteenth century schools; sociological jurisprudence; theories of justice; the nature of law; law and morals; law and the state; the scope and

subject matter of law, sources and forms of law; the traditional element; analysis of general legal concepts. Hall, Readings in Jurisprudence. Morning. (Also offered 1949 summer term.)

447-48 *Municipal and Government Corporations* McIntire
(2-2)

Municipal corporations: organization, powers, functions and legal relations of local governmental units. Federal corporate agencies: organization, powers, functions, and legal relations of functional governmental units separately incorporated. Tooke and McIntire, Cases on Municipal Corporations. Evening.

451-52 *Trade Regulation Seminar* (2-2) Oppenheim
A research seminar in specific current problems relating to federal anti-trust laws and unfair trade practices. Time to be arranged.

DEGREES CONFERRED

BACHELOR OF LAWS

November 11, 1948

Allen, Jonathan Harvey	Tex.	Hantman, Alfred	N.Y.
Altmann, Andrew Taylor	D.C.	A.B. 1939, Brooklyn College	
B.S. 1941, University of Maryland		Heinish, Ned O.	W.Va.
Bailey, William Alfred	Tex.	A.B. 1942, Marshall College	
Barber, John Raymond, Jr.	Calif.	Helstrom, Warren Richard	Ill.
A.B. 1941, Whitman College		A.B. 1943, DePauw University	
Bedke, Herman Earl	Idaho	Holyfield, Thomas Kenney	Miss.
B.S. 1941, University of Utah		A.B. 1941, Millsaps College	
Bennett, William Tapley, Jr.	Ga.	Horkan, George Anthony, Jr.	D.C.
A.B. 1937, University of Georgia		A.B. 1943, University of	
Berger, Martin	Pa.	Pennsylvania	D.C.
Bernat, Louis Conrad	N.Y.	Imlay, Carl Hudson	
Best, Crossett Mitchell	Ark.	A.B. 1946, Harvard University	Ill.
B.S. 1937, University of Alabama		Krubel, Frederick John	
Bolhagen, Clifford Fred	Md.	B.S. in M.E. 1943, University of	
Brain, William Herbert	Ill.	Illinois	Minn.
B.S. 1944, University of Illinois		Lexa, Frank Joseph, Jr.	
Carriker, Guy Homer	Tex.	A.B. 1943, University of Minnesota	Iowa
B.S. 1943, North Texas State		Lingreen, Edna Marion	
Teachers College		A.B. 1934, A.M. 1935, State	
Christenson, Cullen Yates	Utah	University of Iowa	
Cohen, Ernest Samuel	N.Y.	Lockwood, Robert Kenneth	D.C.
B.C.E. 1937, College of the City of		A.B. 1942, Maryville College	D.C.
New York		Luber, Shirley Natalia	D.C.
Cortez, Ezekial Casimiro, Jr.	N.M.	Martin, James Alfred	D.C.
A.B. 1943, New Mexico College of		B.S. 1940, United States Coast Guard	
Agriculture and Mechanic Arts		Academy	
Couser, Christian Rewoldt	Conn.	Mayoral, José Angel	Puerto Rico
Cox, Lewis Calvin, Jr.	N.M.	B.B.A. 1939, University of Puerto	
Craig, Alan Ward	N.Y.	Rico	
Cross, Margaret Johns	D.C.	McTiernan, Charles Edward	N.Y.
A.B. 1938, University of Illinois		B.S. in E.E. 1941, University of	
Davis, Edwin Lanier	Ga.	Alabama	Conn.
A.B. 1947, The George Washington		Merwin, John David	
University		B.S. 1943, Yale University	N.Y.
Dennemeyer, John James	Calif.	Miller, Joseph Sheldon	Md.
Abitur, 1940, College of Luxembourg		Moon, Joan Marie	
Derr, Charles Ivan	Ill.	A.B. 1942, University of Maryland	Conn.
A.B. 1939, Illinois Wesleyan		Neveleff, Jerome Cooper	
University		A.B. 1941, Yale University	Ga.
Dillon, Edward Scott	D.C.	Newsome, George Marvin	W.Va.
B.S. 1932, University of Illinois		Nichols, Frank Dean	
Doty, Dale Edward	Calif.	A.B. 1946, The George Washington	
A.B. 1936, Pomona College		University	Ala.
A.M. 1938, University of Cincinnati	D.C.	Niehuss, Jacob Clark	
Dreos, George Calvin		A.B. 1940, University of Alabama	Mich.
B.S. in Chem. Eng. 1945, University	D.C.	Ostermann, Herbert William	
of Alabama	Iowa	B.S. 1944, University of Michigan	N.Y.
Engelhardt, Charles William, Jr.		Pennefeather, Joseph Edmond	N.Y.
Finder, Lee McLeish	Va.	Raffel, Everett Morton	
A.B. 1943, State University of Iowa		A.B. 1943, Brooklyn College	Mont.
Gardner, Edith Rose		Robinson, Thomas Benton	Utah
A.B. 1943, University of California	D.C.	Rodgers, Philip Ray	
at Los Angeles		B.S. 1939, M.S. 1940, University of	
Gibbs, Richard DeArmond		Utah	
A.B. 1947, The George Washington	N.Y.	Ph.D. 1947, American University	D.C.
University		Rosinski, Donald Carl	Ohio
Gottlieb, Alvin Lawrence		Shadowen, Cyril Eugene	Md.
A.B. 1946, The George Washington	Mich.	Shearin, Plummer Mustian	
University		B.S. 1936, Wake Forest College	
Hagan, William Joseph			
Ph.B. 1942, University of Detroit			

Shure, Gilbert Bernard B.S. 1934, Virginia Polytechnic Institute	Va.	Thomas, William Henry Baldwin Walkinshaw, Walter	D.C. Wash.
Smith, Leon Kushner A.B. 1947, The George Washington University	D.C.	Weston, Glen Earl (With distinction) B.S. 1943, University of Maryland	Md.
Smith, Richard Robert Southmayd, LeRoy, Jr.	Va.	Wild, Paul Joseph	Va.
Spivak, Richard Walter B.S. 1942, University of Pennsylvania	Mont. Pa.	A.B. 1938, Drake University Willenbacher, Dorothy Elizabeth	Md.
Sterman, Milton B.S. in Eng. 1935, Ch.E. 1936, College of the City of New York	N.Y.	Wilson, Vernon Claude Wofford, William Tatum	D.C. Va.
Sudnik, Louis Frederick B.S. 1941, United States Coast Guard Academy	Mass.	B.S. 1942, Texas Agricultural and Mechanical College	

February 22, 1949

Abendschein, Mary-Jane Ailes, Curtis, Jr. B.E.E. 1941, Ohio State University	Va. Va.	Gilfix, Roy Hart B.S. 1944, University of Maryland	D.C.
Alpar, Jacob A.B. 1947, The George Washington University	D.C.	Glasgow, Norman Milton B.S. 1943, University of Maryland	Md.
Appleby, James Scott A.B. 1944, University of Arizona	D.C.	Good, Charles Lloyd B.S. in Ch.E. 1942, Purdue University	Md.
Bamford, David Ellery Baker, Harold Fred	Pa. N.Y.	Guerra, Alphonso Angel Hancock, John Cochrane	Tex. Md.
Barnes, Frank Oakes Buchanan, James Allison, Jr. B.S. in M.E. 1944, Northwestern University	N.Y. Va. Md.	A.B. 1943, Western Maryland College Harris, John Alfred B.S. 1946, University of Illinois	D.C.
Bush, Donald Cochran Caldwell, Callis A. Campbell, William Robert B.S. in C.E. 1947, University of Maryland	Pa. Utah Md.	Harrison, Haldon Roberts A.B. 1947, The George Washington University	Va.
Cotter, Francis Aloysius Dauer, Maxwell A.B. 1918, M.S. 1937, New York University	Md. D.C.	Hart, Wilson Ritter A.B. 1942, University of New Mexico	N.M.
Davey, William Francis Dawson, Howard Athalone, Jr. B.S. 1946, University of North Carolina	N.Y. Va.	Heckman, Phyllis Lou Herring, Paul Littleton B.S. 1946, University of Maryland	D.C. Md.
Deck, William Horace B.S. in B.A. 1942, University of Tennessee	Md.	Hill, George Richards Hudgins, John Jefferson	Pa. Va.
Embrey, Lemuel Jackson A.B. 1937, The George Washington University	Va.	Hudson, Dugald Walker A.B. 1940, Presbyterian College	S.C.
English, Thomas Young A.B. 1941, The George Washington University	Tenn.	Kahn, Evans A.B. 1932, Yale University	N.Y.
Fenderson, Ralph Leon, Jr. A.B. 1941, University of California at Los Angeles	Ariz.	Kardy, Leonard Thomas Keller, Phillips Brooks, Jr. A.B. 1947, University of Texas	Md. Tex.
Ferry, John Paul A.B. 1937, B.S. 1938, St. Joseph's College	Va.	Knight, Robert Whitney Lasco, John, Jr.	Md. Pa.
Fields, Oden Wilson A.B. 1933, University of California	Calif.	Lay, Kenneth Swift Levin, Joseph	Mo. D.C.
Fitzsimmons, James William B.M.E. 1942, Polytechnic Institute of Brooklyn	N.Y.	Litteral, Kelley A.B. 1946, Washington and Lee University	Md.
Fortney, Gordon A.B. 1932, University of Wisconsin	Va.	Long, George Edward Loos, Dickson Randall A.B. 1945, Dartmouth College	Md. Md.
Gardner, Spencer Delos Gaughan, John Vincent A.B. 1932, Villanova College	Mich. Va.	B.S. 1945, Yale University Lockett, Richard Samuel, Jr. A.B. 1942, Randolph-Macon College	Va.
		Magurn, Joseph John A.B. 1938, Harvard University	D.C.
		Mason, William Ernest McCormick, William Carlyle A.B. 1938, West Virginia University	Ill. W.Va.
		McElroy, John Dale McLendon, Sally Birdsell A.B. 1946, University of Iowa	Md. Miss.
		McPherson, James Willis, Jr. Mitchell, George Day B.S. 1934, Johns Hopkins University	Ohio Md.

The George Washington University

Murchison, David Claudius	D.C.	stein, Murray	Va.
Nicholas, Manuel Mike	Md.	A.B. 1947, The George Washington University	
B.S. in B.A. 1943, University of Maryland		Tarrant, William Theodore, Jr.	D.C.
Payne, Ralph Lucian	Va.	A.B. 1938, Stanford University	
Pucci, Gerard Richard	N.Y.	A.M. 1939, Tufts College	Va.
B.S. in M.E. 1944, Virginia Polytechnic Institute		Tilson, Paul Lambert	
Richwine, Francis Kost	Pa.	B.S. 1938, M.S. 1939, Massachusetts Institute of Technology	Mass.
B.S. 1941, Pennsylvania State College		Timbie, Donald Mute	
Rose, Charles Jules	W.Va.	B.S. in E.E. 1940, Massachusetts Institute of Technology	N.Y.
A.B. 1942, The George Washington University		Trabb, Ralph	
Rowan, Eugene Francis	N.Y.	A.B. 1947, The George Washington University	
B.S. 1945, University of Virginia		Vance, William Frank	Ala.
Ryan, Mary Delores	Md.	(With distinction)	
A.B. 1947, The George Washington University		A.B. 1941, Birmingham-Southern College	
Scott, David Alan	N.J.	VanMeter, William Garrett	Va.
A.B. 1938, Princeton University		Vorder Bruegge, Howard Joseph	Tenn.
A.M. 1946, Columbia University	D.C.	Washington, James William	N.J.
Semmes, John Gibson	Maine	A.B. 1946, Lafayette College	
Smith, Dorr Newell		Wheeler, Mary Starr	Conn.
A.B. 1947, The George Washington University		A.B. 1916, Wellesley College	N.H.
Smith, Lawrence Sinclair	Fla.	Wong, Wing	
A.B. 1940, University of Florida			
Stanley, Earl R.	Ohio		
B.S. in Ed. 1943, Kent State University			

June 1, 1949

Abel, Leonard Leon	D.C.	Choulas, James George	N.Y.
Abramowitz, Charles	N.Y.	Clark, William III	N.C.
A.B. 1948, The George Washington University		Close, Marion Campbell	N.Y.
Albright, Penrose Lucas	Kans.	Collins, Percy Henry, Jr.	Kans.
Alvey, Ernest Brandon	Va.	B.S. 1941, University of Kansas	Calif.
Bakke, Norris Conroy, Jr.	Colo.	Dasteel, Robert Herbert	
A.B. 1946, Colorado College		B.S. 1939, United States Naval Academy	
Barackman, Bruce MacDonald	Pa.	Davis, Donnell Preston	S.C.
A.B. 1939, Allegheny College		A.B. 1945, University of South Carolina	
Basnard, Ernest Cornish, Jr.	Va.	Davis, John Mason	Ill.
Benson, Paul	N.D.	B.S. 1940, University of Illinois	
B.S. 1942, University of North Dakota		Dentz, Edwin James	D.C.
Berdston, Arthur Henry	Calif.	Diston, Frank Earl	Wyo.
B.S. 1940, United States Naval Academy		Dixon, Thomas Wilson	Mo.
Bieseimer, Harold Woodall	D.C.	Dodge, Austin Phelps	Md.
B.S. 1940, United States Naval Academy		B.S. 1944, Massachusetts Institute of Technology	
Black, Hiram Day	D.C.	Dubiel, Joseph Michael	Va.
A.B. 1944, Yale University		B.S. 1938, University of New Hampshire	
Block, William Edward, Jr.	N.D.	Duff, Alfred James	Pa.
Ph.B. 1947, University of North Dakota		A.B. 1947, Pennsylvania State College	Ala.
Bollard, Isabelle Mary	Ill.	Earnest, John Allen	
B.S. 1940, University of Tennessee		B.S. 1943, Alabama Polytechnic Institute	
Borchelt, Benjamin August	Md.	Ehrlich, Bernard Herbert	D.C.
B.S. 1941, The George Washington University		A.B. 1946, The George Washington University	
Brittin, Burdick Heinkel	N.J.	Elias, Jack Isidor	N.Y.
A.B. 1940, Union College		B.B.A. 1941, College of the City of New York	
Brown, Joseph Sessford	Kans.	Elliott, Ralph Earle, Jr.	Ill.
A.B. 1947, University of Kansas		Esch, Arthur Gerald	Ill.
Browning, John Barnett	N.J.	B.S. 1940, United States Naval Academy	
B.S. 1943, University of Alabama		Fahrney, John William	Va.
Campbell, Donald Alfred	D.C.	A.B. 1948, The George Washington University	
Campbell, Strouse, Jr.			
A.B. 1943, Duke University	Pa.		
Chapinsky, Leo Eugene			
Ph.B. 1942, Dickinson College			

Field, Lawrence Irving	Pa.	Levin, Jacob Solomon	D.C.
B.S. in Eng. 1935, Ch.E. 1936, College of the City of New York		Levine, Irving Abraham	D.C.
Firsht, Peter Hergesheimer	Va.	Lukens, John Fruehle	Idaho
B.S. 1931, Drexel Institute of Technology		A.B. 1916, University of Idaho	
Galysh, Theodore Richard	Conn.	Maltby, Wilson Ray	Va.
B.S. 1946, Villanova College		A.B. 1910, Milton College	
Gearheart, Ernest Theodore, Jr.	Va.	A.M. 1911, University of Wisconsin	Maine
A.B. 1916, University of Richmond		Martin, Richard Alfred	Ark.
Gilmore, Frank Peter	Ill.	McAlear, Frank Ed	
B.S. 1927, M.D. 1929, Loyola University		A.B. 1945, The George Washington University	
Goodpasture, Maurice Carroll	Tex.	Miller, Homer Ralph, Jr.	Md.
A.B. 1941, Texas Technological College		Miller, James Robert	Md.
Graham, Robert Albary	Tex.	Mirandon, Joseph Wilmer	N.J.
Hapeman, Lucy Ann	Nebr.	A.B. 1947, The George Washington University	
A.B. 1946, University of Nebraska		Montgomery, John William Myers	D.C.
Harris, Shirley	Va.	B.S. 1940, United States Naval Academy	
A.B. 1944, Wellesley College		Moore, George Carlton, Jr.	Md.
Hirschberg, Robert Lowe	Ohio	A.B. 1941, University of Maryland	
A.B. 1940, Oberlin College		Moran, Leon James	Conn.
Hodges, Raymond Lewis	D.C.	Nielson, Donald Clarence	Mo.
B.S. 1931, University of Maryland		A.B. 1947, University of Kansas	
Hoffman, Rubin	Md.	Nolte, Albert Charles, Jr.	Md.
B.Ch.E. 1937, College of the City of New York		B.S. in Eng. 1943, Princeton University	
Hovan, Edward Eugene	N.Y.	Pellerzi, Leo Maurice Francis	Md.
Ph.B. 1941, M.D. 1936, Yale University		Pfund, Charles Edward	Md.
Humes, Charles Edward	Ohio	B.S. in E.E. 1943, Iowa State College	
Huffman, William Ewart	Md.	Purdy, William Frederick, Jr.	N.Y.
Hyler, William Fred	Tex.	(With distinction)	
(With distinction)		M.E. 1937, Stevens Institute of Technology	
B.S. 1942, Oklahoma Agricultural and Mechanical College		Quesenberry, William Otis	Va.
Jacobs, Arthur Alfred	Md.	B.S. in C.E. 1943, Virginia Polytechnic Institute	
B.S. 1939, New York University		Racoonin, Stanley Arnold	D.C.
Johnson, Charlotte Albertina	Minn.	Ralston, Lawrence Parker	Conn.
B.B.A. 1932, University of Minnesota		A.B. 1939, Princeton University	
Keating, William Joseph	Md.	Rambo, Rosnald Rodney	Pa.
B.S. 1949, United States Naval Academy		B.S. 1933, M.S. 1934, University of Arizona	
Keith, Deane Ellington	Va.	M.D. 1938, Harvard University	
B.S. 1941, University of Maryland		Randolph, Edgar Reed	Mass.
Kennedy, Joseph Bernard, Jr.	Va.	A.B. 1946, Yale University	
A.B. 1947, The George Washington University		Reynolds, Chester Forest	D.C.
Kerr, David Jay	Okla.	Robbins, Charles Earl	La.
A.B. 1947, The George Washington University		Ross, Harry, Jr.	Miss.
Kilbey, Katherine	Va.	B.N.S. 1946, University of Notre Dame	
A.B. 1927, Trinity College		Rousar, Edward Everett	Va.
King, Donald Kyle	D.C.	Ryan, John Wynne	N.Y.
A.B. 1948, The George Washington University		A.B. 1942, Dartmouth College	
Kuchler, Ralph Rudolph	Utah	Schultz, John Hooker	Md.
A.B. 1948, The George Washington University		Seed, Richard Warren	Wash.
LaHatte, James Albert, Jr.	Md.	B.S. 1944, California Institute of Technology	
B.S. in E.E. 1943, Georgia Institute of Technology		Sheeskin, Jacob	D.C.
Lamberton, Alfred Jannus	N.H.	Smith, Jesse Bond, Jr.	Md.
A.B. 1933, University of New Hampshire		A.B. 1942, University of Virginia	
Langholz, Ernest Frederick	Tex.	Smolen, Joseph Sidney	N.Y.
A.B. 1948, The George Washington University		A.B. 1946, University of California at Los Angeles	
Leighton, Donald McCulloch	Nev.	Streinz, Clare Julia	Pa.
A.B. 1938, University of Nevada		Sures, Charles Stanley	D.C.
		A.B. 1947, The George Washington University	
		Taussig, Joseph Knefler, Jr.	R.I.
		B.S. 1941, United States Naval Academy	

Taylor, Thomas Hart B.S. 1940, United States Naval Academy	Ohio	Westfall, Ted B. B.S. 1940, University of Oklahoma	Tex.
Tenny, Morgan Ledyard A.B. 1947, University of Maryland	Md.	Wetmore, William Furches, Jr.	Va.
Thompson, Lucius Fred	Ga.	White, Irvin Albert	Nebr.
Triviz, Edward Ernest A.B. 1942, New Mexico College of Agriculture and Mechanic Arts	N.M.	White, Ruth Baskin A.B. 1943, University of Pennsylvania	Nebr.
Washington, Fielding Lewis	Va.	Wilkins, Elizabeth Ann	D.C.
Webb, Henry Gorham B.S. 1938, University of North Carolina	N.C.	Wood, Charles William	Pa.
Webb, Richard William A.B. 1947, The George Washington University	Conn.	Wymbs, Roy Paul B.S. 1942, University of Richmond	Va.
		Young, Olive Emily A.B. 1929, A.M. 1930, University of Rochester	N.Y.
		Zaid, Charles A.B. 1933, Temple University	Pa.

JURIS DOCTOR

February 22, 1949

Bronaugh, Alfred Taylor B.S. in E.E. 1939, The George Washington University	D.C.	Kempton, Lawrence R. B.E.E. 1940, Ohio State University	D.C.
Browning, Paulus Powell, Jr. B.S. 1941, University of Pennsylvania	D.C.	Schneider, Homer James B.S. 1942, University of Wisconsin	Va.

June 1, 1949

Bergren, Orville Vernon B.S.C. 1940, University of North Dakota	Mich.	Kramer, Jerome Frank B.E.E. 1945, Ohio State University	Ohio
Brodahl, Raymond Gilbert B.S. in E.E. 1945, Iowa State College	D.C.	LeClaire, Charles Homer A.B. 1940, Alma College	Mich.
Collet, William Andersson (With distinction) A.B. 1947, Westminster College	Mo.	M.B.A. 1942, University of Michigan	
Cutler, Charles Russell B.S. 1945, California Institute of Technology	Ill.	Lhamon, George Marion B.S. 1930, United States Naval Academy	Calif.
Dent, Richard Judson Even, Francis Alphonse B.S. in M.E. 1942, University of Illinois	Va. Ill.	Macaluso, Vincent Grondin A.B. 1947, Yale University	N.Y.
Friedman, Martin Leonard (With distinction) A.B. 1939, Rutgers University	N.J.	Oliver, William Palmer, Jr. (With distinction) A.B. 1941, University of Missouri	Mo.
Gray, Louis Patrick III B.S. 1940, United States Naval Academy	Tex.	Savage, William Alvin A.B. 1939, Stanford University	Calif.
Johnson, Olin Beeler A.B. 1944, Western Michigan College	Mo.	Stevens, Wynne Allan, Jr. A.B. 1939, College of William and Mary	Md.
		Weiss, Sidney B.B.A. 1942, College of the City of New York	N.Y.

MASTER OF LAWS

November 11, 1948

Boyko, Edgar Paul LL.B. 1945, University of Maryland	Md.	Hordes, Sanford LL.B. 1940, University of Maryland	N.J.
Daleda, Joseph B.S. 1934, Massachusetts Institute of Technology	D.C.	Jones, Tilford A. LL.B. 1948, The George Washington University	D.C.
LL.B. 1942, The George Washington University		Loveless, Ernest Alvin, Jr. A.B. 1943, University of Maryland	Md.
Dunn, Francis Gill LL.B. 1937, University of South Dakota	S.D.	LL.B. 1947, The George Washington University	
Ely, Robert Burroughs A.B. 1920, Emory and Henry College	Va.		
LL.B. 1926, The George Washington University			

February 22, 1949

Bellis, Tom	Mo.	Leney, Herber Carlton	Tex.
A.B. 1929, Southeast Missouri State Teachers College		B.S. 1928, Oklahoma Agricultural and Mechanical College	
A.M. 1931, University of Cincinnati		LL.B. 1934, University of Oklahoma	Kans.
J.D. 1948, The George Washington University		M.A. 1935, Virgil Maunier	
Braddon, Kerlin Joseph	Tex.	A.B. 1936, LL.B. 1938, University of Kansas	
LL.B. 1934, University of Oklahoma		Moreland, Allen Barwick	Fla.
Craig, Paul Max	D.C.	B.S. in B.A. 1938, University of Florida	
Dr. juris utr. 1911, University Erlangen, Bavaria		A.M. 1942, Harvard University	
Certificat de Science Pénale 1913, Sorbonne, Ecole de Droit, Paris		LL.B. 1947, Georgetown University	D.C.
Finch, Walter Garretty Goss	Md.	Owen, William Edison	
B.E. 1940, Johns Hopkins University		LL.B. 1948, The George Washington University	
LL.B. 1948, Temple University		Pollock, Charles Frederick	Wis.
Horowitz, Herbert David	Pa.	Ph.B. 1935, University of Wisconsin	
LL.B. 1947, The George Washington University		LL.B. 1949, The George Washington University	

June 1, 1949

Arn, Lauren Arden	Ohio	Menter, Martin	N.Y.
A.B., LL.B. 1940, Ohio State University		A.B. 1937, LL.B. 1939, Syracuse University	
Ashley, Robert David	Mass.	Negus, Raymond Anthony	Md.
LL.B. 1948, Boston University		LL.B. 1948, The George Washington University	
Blum, Irwin Ellis	N.Y.	Reed, Richard Carl	Iowa
B.S. 1911, Brooklyn College		A.B. 1939, J.D. 1941, University of Iowa	
J.D. 1948, The George Washington University		Roberts, Austin Leonard, Jr.	N.J.
Corcoran, Daniel James	Mo.	A.B. 1941, College of William and Mary	
LL.B. 1946, Washington University		LL.B. 1948, The George Washington University	
Dean, John Joseph	N.Y.	Rohrer, Carl Pfeffer	Va.
A.B. 1941, LL.B. 1948, The George Washington University		A.B. 1911, LL.B. 1913, The George Washington University	
Drain, Richard Dale	D.C.	Sharratt, George Stanley H., Jr.	Kans.
A.B. 1942, LL.B. 1948, Yale University		LL.B. 1936, University of Missouri	
Duke, Norman Edward	Va.	Shryock, Raymond DeSouville	Va.
A.B. 1934, LL.B. 1935, University of Notre Dame		A.B. 1926, LL.B. 1929, University of Pennsylvania	
Fausel, Walter Eugene	N.J.	Smith, Edwin Stratford, Jr.	Utah
B.S. 1920, Pennsylvania State College		LL.B. 1944, The George Washington University	
LL.B. 1948, Washington and Lee University		Walker, Paul Howard	Miss.
Hunt, Leigh Hale	Va.	LL.B. 1948, The George Washington University	
A.B. 1928, LL.B. 1930, University of Illinois		Wilson, John Samuel Joseph	N.Y.
Kenner, Jack Linwood	Va.	A.B. 1946, LL.B. 1950, Fordham University	
LL.B. 1941, University of Louisville			
Lynby, Alfred Robert	Fla.		
B.S. 1917, LL.B. 1940, University of Alabama			

DOCTOR OF JURIDICAL SCIENCE

June 1, 1949

Olverson, John Benjamin	Va.
B.S. 1947, American University	
LL.B. 1950, LL.M. 1951, Georgetown University	
Dissertation: "The Clifford Regulations: A Trend Toward the Supremacy of the Administrative Process"	

SUMMER TERM 1948
FALL AND WINTER TERMS 1948-49

(46)

Baker, Rex Harding	Ill.	Beebe, William Bovell	D.C.
A.B. 1948, University of California at Los Angeles		A.B. in Gov. 1946, The George Washington University	
Baker, Robert Clifford	Wash.	Behun, Joseph Andrew	Ohio
A.B. 1948, University of Minnesota		Beimford, Louis A.	Ohio
Bakke, Norris Connor, Jr.	Md.	B.S. in B.A. 1948, Miami University	
A.B. 1946, Colorado College		Belk, Harry Clinton	S.C.
Balavage, Albert Alphonsus	D.C.	A.B. 1943, Wofford College	Ohio
B.S. 1947, University of Pennsylvania		Bell, Edward Leroy	Ohio
Baldrige, Reid	Md.	B.S. in M.E. 1946, Illinois Institute of Technology	
A.B. 1948, The George Washington University		Bell, Jay Richard	Utah
Bamford, David Ellery	Pa.	Bell, John Murphy	Okla.
Barachman, Bruce MacDonald	Pa.	B.S. in A.E. 1943, University of Oklahoma	
A.B. 1949, Allegheny College		Bellamy, Frederick Joseph	D.C.
Barber, Alvin Thomas	D.C.	Bellis, Tom	Mo.
B.S. 1941, Susquehanna University		A.B. 1929, Southeast Missouri State Teachers College	
Barber, Frederick Willard	Calif.	A.M. 1941, University of Cincinnati	
A.B. in Gov. 1941, The George Washington University		J.D. 1948, The George Washington University	
Barber, John Raymond, Jr.	Calif.	Belt, Osborn S.	Md.
A.B. 1941, Whitman College		A.B. 1941, Allegheny College	
Barish, Benjamin J.	Mich.	M.C.S. 1947, Dartmouth College	
B.S. in E.E. 1946, Illinois Institute of Technology		Bennet, Joseph Campbell, Jr.	Va.
Barnard, Richard Paul	Mich.	Bennett, Anne Ruthford	W.Va.
B.S. in M.E. 1947, University of Michigan		A.B. 1939, Goucher College	
Barnes, Duard Roof	Ariz.	Bennett, William Batchelder	Va.
Barnes, Frank Clakes	Va.	B.S. 1935, University of New Hampshire	
Barnes, John Lockard	Md.	A.M. 1936, Ph.D. 1941, Louisiana State University	
Barnett, Robert Alexander	D.C.	Bennett, William Tapley, Jr.	Ga.
Barozzi, Dario	D.C.	A.B. 1937, University of Georgia	
I.I.B. 1949, Harvard University		Benson, Clair Frank	Maine
Barson, David	Mass.	A.B. 1913, Colby College	
Barton, Victor Ewing	Va.	Benson, Floyd W.	Calif.
Basden, William Maxwell	Va.	A.B. 1933, Stanford University	
Bastian, David Charles	D.C.	Benson, Jacque Maruie	D.C.
A.B. 1948, University of Maryland		B.S. 1947, Utah State Agricultural College	
Bathory, Joseph Patrick	D.C.	Benson, Paul	N.D.
Battan, James Franklin	Va.	B.S.C. 1942, University of North Dakota	
Basenkight, William Cooper, Jr.	Va.	Berg, Martin Donald	D.C.
B.S. 1942, University of Virginia		Berger, Arthur Joseph	Pa.
Baum, Norman	Pa.	A.B. 1948, Bucknell University	
A.B. 1948, Bucknell University		Berger, Bernard Nelson	D.C.
Baumgarten, Stephen Harvey	N.Y.	Berger, Martin	Pa.
Baylor, Walter Robert	Md.	Bergman, William Hunter	D.C.
B.S. 1947, University of Maryland		Bergmann, Robert T.	Md.
Baynard, Ernest Cornish	Va.	B.S. in E.E. 1943, University of Missouri	
Beach, David Jerome	Md.	Bergsten, Orville Vernon	Mich.
Beall, John Niman, Jr.	Va.	B.S.C. 1940, University of North Dakota	
Beasley, Jess Lee	D.C.	Berman, Hyman	N.Y.
A.B. 1936, Phillips University		Berndtson, Arthur Henry	Va.
M.S. 1941, University of Oklahoma		B.S. 1940, United States Naval Academy	
Beatty, Alta Mae	D.C.	Bernst, Louis Conrad	N.Y.
Beatty, Burton Paul	N.Y.	Berry, Jack Aloysius	Ill.
B.S. in C.E. 1944, Virginia Military Institute		Berry, Seymour	N.Y.
I.I.B. 1948, Fordham University		Benson, Harold Ralph	Nev.
Beauchamp, John Phillip, Jr.	R.I.	A.B. 1949, The George Washington University	
A.B. 1946, Brown University		Best, Crossett Mitchell	Ark.
Bechtold, Royal Arthur	Ind.	B.S. 1937, University of Alabama	
B.S. 1948, Indiana University		Best, Lee James	N.C.
Beck, John Albert	Md.	A.B. 1919, Duke University	
Becker, Martin Stanley	D.C.	Bevelacqua, Charles Angelo	Pa.
Beckwith, Thomas Larson, Jr.	N.J.	B.M.E. 1946, University of Pittsburgh	
Bedford, Lynn Wesley	D.C.		
B.S. 1941, University of Missouri			
Bedke, Herman Earl	Idaho		
B.S. 1941, University of Utah			

Beyen, Karel Herman	D.C.	Bogen, William	N.Y.
LL.M. 1948, University of Amsterdam		Bogorad, Abraham	N.Y.
Biesemeier, Harold Woodall	Md.	B.S.S. 1941, College of the City of New York	
B.S. 1940, United States Naval Academy		Bohan, John Patrick	Pa.
Biram, James Raymond	Conn.	Bohagen, Clifford Fred	Md.
B.S. in C.E. 1947, Yale University		LL.B. 1948, The George Washington University	
Birdsell, John Edmund	D.C.	Bollard, Isabelle M.	Ill.
A.B. 1945, LL.B. 1947, The George Washington University		B.S. 1933, University of Tennessee	
Bjorge, James Robert	Oreg.	A.B. 1935, West Tennessee State Teachers College	
B.S. 1947, United States Naval Academy		Bollinger, Howard Moore	D.C.
Bjorklund, Otto Edward	Minn.	B.S. 1943, M.S. 1947, Massachusetts Institute of Technology	
Black, George LaDow	Va.	M.B.A. 1948, Harvard University	
B.S. in E.E. 1946, University of South Carolina		Bookman, Irving	N.J.
Black, Hiram Day	N.J.	A.B. 1940, New York University	
A.B. 1947, Yale University		Boorman, Robert Henry	D.C.
Black, John Thomas	Ala.	Bootton, Robert Edward	Iowa
B.S. 1946, LL.B. 1949, University of Alabama		Borchelt, Benjamin A.	Mo.
Blackmon, E. B.	D.C.	B.S. 1941, The George Washington University	
A.B. 1936, John Brown University		Borel, Paul Arnold	Va.
Blackwell, Albert Turner	Md.	B.S. in C.E. 1934, University of Kansas	
A.B. 1948, University of Maryland		M.B.A. 1938, Harvard University	
Bladergroen, Robert John	N.Y.	A.M. 1943, Columbia University	
A.B. 1942, LL.B. 1947, Cornell University		Boroughs, Lewis Edward	N.C.
Blake, George Francis	Md.	LL.B. 1948, The George Washington University	
Blake, Martin	D.C.	Bortner, Jeffrey Clair	Pa.
B.S. 1947, Northeastern University		Bourne, Hunter Carson, Jr.	D.C.
Blanding, Evelyn Smith	D.C.	B.S. in E.E. 1945, Virginia Polytechnic Institute	
A.B. 1943, Radcliffe College		Bowen, Edward Norman	N.J.
Blanton, Joseph Warren	Va.	B.S. in M.E. 1944, Rutgers University	
Blasangame, Paul Arthur	Va.	Bowen, Francis Leo	Pa.
B.M.E. 1948, The George Washington University		A.B., B.S. 1948, High Point College	
Blatchford, Walter Larned	Ill.	Bower, Robert Sharon	Va.
B.S. 1933, United States Naval Academy		A.B. 1920, Stanford University	
Blitgen, Glenn Edward	Iowa	Bowling, George Washington	Md.
B.S. 1944, State University of Iowa		Bowman, Robert Tachan	Md.
Bloch, Robert Oakleigh	Nebr.	A.B. 1948, Miami University	
A.B. 1940, The George Washington University		Boyer, John Alton	Md.
Block, Harold Stanley	Pa.	A.B. 1948, The George Washington University	
B.S. in E.E. 1944, University of Missouri		Boyko, Edgar Paul	D.C.
Block, Huntington Turner	D.C.	LL.B. 1945, University of Maryland	
A.B. 1948, Princeton University		Boylan, Robert Thomas	Pa.
Block, William Edward, Jr.	N.D.	B.S.E. 1947, University of Pennsylvania	
Ph.B. 1947, University of North Dakota		Braddock, Harry Elton	N.J.
Block-Barton, Fred Hubert	Calif.	B.S. 1945, United States Naval Academy	
Blodgett, Norman Stack	D.C.	Bradley, William Orlando	Nev.
B.S. 1944, Worcester Polytechnic Institute		Bradway, Malcolm Strobe	Ind.
Blondheim, Dorothy Hudson	N.C.	B.S. in M.E. 1948, Purdue University	
A.B. 1934, Miami University		Bragan, Richard Larry	Md.
Bloom, Jerome Philip	Mich.	Bragdon, Kerlin Joseph	Tex.
B.S. 1947, Wayne University		LL.B. 1934, Oklahoma City University	
Blum, Irwin Ellis	N.Y.	Brain, William Herbert	Ill.
B.S. 1933, Brooklyn College		B.S. 1944, University of Illinois	
J.D. 1938, The George Washington University		Bramow, A. Stanley	D.C.
Blumenkopf, Norman	N.Y.	B.S. 1946, Virginia Polytechnic Institute	
A.B. 1941, Brooklyn College		Bramow, Alvin	D.C.
Blute, William Augustine	D.C.	Brand, Paul Joachim	N.Y.
Bochenek, Benjamin Herman	Md.	B.S. 1941, New York University	
B.S. 1947, University of Maryland		Brantley, James Cranford	D.C.
Bock, Eugene William	N.Y.	B.B.A. 1947, University of Georgia	

Brasfield, Harold A.B. 1934, Birmingham-Southern College	Ala.	Burgess, Aubrey Lewis B.M.E. 1948, The George Washington University	D.C.
Braswell, Hiram Eugene A.B. 1948, University of North Carolina	N.C.	Burgess, James Riley, Jr. A.B. 1941, Michigan State College of Agriculture and Applied Sciences	Mich.
Brennan, Francis Xavier Breslauer, Ruth Cooper B.S. 1945, The George Washington University	N.Y. D.C.	Burns, Walter William, Jr. B.E.E. 1942, Cornell University	N.Y.
Breslaw, Joseph B.S. 1946, University of Notre Dame	Colo.	Burr, LaVern Harold A.B. 1947, Butler University	Va.
Brewster, Daniel Baugh Brilhart, Gladden Loats B.S. in M.E. 1943, Duke University	Md. Md.	Burroughs, George Aloysius Burstein, Harvey	D.C. Nebr.
Brill, Edward Pope, Jr. Brinks, Henry Luke A.B. 1948, Wheaton College, Ill.	Md. Ill.	Burton, Joseph John Burton, Lockwood Duquesne	Va. D.C.
Bristol, Ethel Cleo Britt, John Francis Xavier A.B. 1942, A.M. 1946, The George Washington University	Md. Ill.	Bush, Donald Cochran Bush, Fred Marshall B.S. 1930, United States Naval Academy	Pa. Miss.
Brittin, Burdick H. A.B. 1940, Union College	Colo. N.Y.	Bush, Joseph Francis B.S. 1947, Mount St. Mary College	D.C.
Brock, Xavier Martin, Jr. Brodahl, Raymond Gilbert B.S. 1945, Iowa State College of Agriculture and Mechanic Arts	N.J. N.C. D.C.	Bushnell, Richard B.S. in M.E. 1948, Purdue University	Ind.
Bronaugh, Alfred Taylor B.S. in E.E. 1939, The George Wash- ington University	N.C. D.C.	Button, Dale Leon Buzbaum, Phyllis Lou	Kans. N.Y.
Bronaugh, John B.S. in M.E. 1947, Virginia Poly- technic Institute	N.J.	C	
Brooks, William I. B.S. 1933, Brooklyn College	N.Y.	Cacheris, John Christ B.S. 1946, Carnegie Institute of Technology	D.C.
Brown, Benjamin Franklin Brown, Charles Erle B.S. 1947, University of Maryland	D.C. Md.	Caldwell, Callis A. Caldwell, Randolph Foster, Jr. Caldwell, Wilfred Gene B.S. in E.E. 1945, M.S. in E.E. 1948, Purdue University	Utah Tenn. Ind.
Brown, Frederick William B.S. 1938, United States Naval Academy	Va.	Callahan, Joseph Robert Callegary, Claude Leon Callow, John Edgar Calrow, Paul Emerson B.S. 1944, University of Minnesota	Pa. Md. D.C. D.C.
Brown, Joseph Sessford A.B. 1947, University of Kansas	Kans.	Camby, John Joseph B.S. 1941, Carnegie Institute of Technology	Pa.
Brown, Martin John B.S. in Ch.E. 1948, Purdue University	Ark.	Cameron, John William Cameron, William Kimmel A.B. 1948, The George Washington University	D.C. Ohio
Brown, Robert Jr. B.S. in C.E. 1926, University of North Carolina	N.C.	Campbell, Barbara Campbell, Donald Alfred Campbell, Francis Walter B.S. in Ed. 1946, Rhode Island Col- lege of Education	Va. Md. R.I.
Browning, John Barnett B.S. 1943, University of Alabama	N.J.	Campbell, Paul Calvin A.B. 1938, M.S. in Ed. 1939, Penn- sylvania State College	Pa.
Browning, Norman Bottger A.B. 1940, University of Delaware	D.C.	Campbell, Robert Alexander, Jr. Campbell, Strouse, Jr. A.B. 1943, Duke University	Va. D.C.
Browning, Paulus Powell, Jr. B.S. 1941, University of Pennsylvania	D.C.	Campbell, William Robert B.S. 1947, University of Maryland	Md.
Brunauer, Sandor Bryan, James Edward B.S. 1945, M.S. 1946, Virginia Poly- technic Institute	D.C. Va.	Cantini, Humbert John Cantwell, William James Carlson, Randolph Adair A.B. 1948, Brown University	N.C. N.Y. D.C.
Buchanan, James Allison, Jr. B.S. 1944, Northwestern University	Md.	Carne, William Benton B.S. in B.A. 1943, University of Tennessee	Tenn.
Buchanan, Katherine Donnell A.B. 1936, Tulane University	Ark.	Carr, Robert Addison B.S. 1932, Ohio State University	Calif.
Buldgin, Frank Javier A.B. 1944, L.L.B. 1955, Baylor University	Va.	Carriker, Guy Homer B.S. 1943, University of Texas	D.C.
Bumer, Charles Theodore, Jr. A.B. 1947, Cornell University	Va.	Carroll, Norman Selman	Va.
Bundock, John Paul, Jr. B.S. in E.E. 1948, Tufts College	Ky.		
Bunn, David Armstrong A.B. 1947, Texas Christian University	Tex.		

Carter, Harold Martin	Va.	Cochran, Robert Reid	N.J.
B.S. 1942, Roanoke College		B.S. in Ch.E. 1944, Tufts College	D.C.
Carter, Henry	Va.	Cocans, John Wesley	
A.B. 1917, A.M. 1920, Yale University		LL.B. 1940, The George Washington University	Md.
LL.B. 1941, The George Washington University	N.Y.	Cohen, Donald Sidney	Va.
Carter, Sidney		B.S. 1947, University of Maryland	
B.S. in Ch.E. 1932, College of the City of New York	Mass.	Cohen, Ernest Samuel	N.Y.
Carulli, Leonard	N.J.	B.C.E. 1948, College of the City of New York	
Caruso, Lawrence Robert	D.C.	Cohen, Jack	
Cesey, John Brendan	D.C.	A.B. 1949, The George Washington University	D.C.
Cesler, James Michael	Oreg.	Cohen, Richard Edward	D.C.
Cavanagh, John Edward		Cohen, Saul Benjamin	D.C.
A.B. 1941, University of Oregon	N.Y.	Cohn, Harold Joseph	Ohio
Cerra, Arthur Joseph	Miss.	A.B. 1931, Ohio State University	
Chamberlin, Claude Alonzo	China	Cole, Marguerite E.	N.J.
Chane, Richard I-Feng		B.S. 1944, State Teachers College, Paterson, N. J.	Tenn.
A.B. 1941, St. John's University of Shanghai	N.Y.	Coleman, Carl Shaulnessy	D.C.
LL.B. 1949, DePaul University		Cohen, William Anderson	Va.
Chap, James John		Collins, Henry D Alton	N.C.
A.B. 1941, Bates College	Pa.	B.S.C. 1949, Notre Dame University	
M.S. 1942, Ph.D. 1934, Massachusetts State College	La.	Collins, John Digen	Kans.
Chapinsky, Leo Eugene	Mass.	A.B. 1944, Wake Forest College	
Ph.B. 1942, Dickinson College	N.Y.	Collins, Percy Henry, Jr.	D.C.
Chennault, Joe Young		B.S. 1941, University of Kansas	N.Y.
Cherwick, Stanley		Colmer, James Henry	Pa.
Cheslow, Ernest	D.C.	Colvin, Harold Bradford	
B.Ch.E. 1949, College of the City of New York	D.C.	Commins, James Alton	Va.
Chaulas, James George	D.C.	B.S. 1948, Bucknell University	
Christeller, Norman Lee	Mont.	Compton, Ross Harrington	
A.B. 1944, Oberlin College		B.S. 1947, Massachusetts Institute of Technology	Pa.
Christensen, Earl	D.C.	Conboy, John Anthony	
A.B. 1943, State University of Montana	Minn.	B.S. 1948, University of Scranton	D.C.
Christenson, Cullen Yates		Condon, Theron Elwin	
Christopherson, Olaf Warren	N.Y.	B.S. in M.E. 1934, Northeastern University	Pa.
A.B. 1946, The George Washington University	Fla.	Cook, Rae Constance	N.Y.
Chudzik, John Stephen		B.S.C. 1947, Temple University	
A.B. 1948, The George Washington University	Va.	Cooke, David Ohlmer	Va.
Church, Abiah Adelbert		B.S. 1941, M.S. 1942, Buffalo State Teachers College, N. Y.	Kans.
A.B. 1948, The George Washington University		Cooksey, Hobart Louis	Mo.
Church, Frederick Lewis	N.J.	B.S. 1946, University of Missouri	
B.S. in B.A. 1943, American University	Ga.	Cope, Harland Buzleigh	
Cifelli, Armand	Va.	A.B. 1946, University of Kansas	
Clark, James Leonard		Coreoran, Daniel James	Va.
Clark, Raymond Dykes	N.J.	LL.B. 1945, Washington University	
B.S. 1948, University of California at Los Angeles	Ga.	Cornwell, Richard Edwin	D.C.
Clark, William		A.B. 1946, Hampden-Sydney College	
Clark, William Bert	D.C.	Corridon, John R.	
Clark, William Giddings	Md.	A.B. 1948, University of Maryland	
Clarke, William Garland	Va.	LL.B. 1942, The George Washington University	N.M.
A.B. 1947, B.C.L. 1948, College of William and Mary		Cortez, Ezekiel Cosimiro, Jr.	
Cleckner, Marie E.	Md.	A.B. 1943, New Mexico College of Agriculture and Mechanic Arts	D.C.
A.B. 1945, College of Notre Dame of Maryland		Costa, Jasper Silva	
B.S. in L.S. 1947, Western Reserve University		A.B. 1927, Brown University	Md.
Close, Marion Campbell	D.C.	LL.B. 1931, Cornell University	D.C.
A.B. 1928, The George Washington University		LL.M. 1948, Georgetown University	
Coblentz, Mervin	Md.	Cotter, Francis Aloysius	
Cochran, Dean Farrington	Va.	Coulombe, Raymond Armond	
		B.M.E. 1948, The George Washington University	Conn.
		Couser, Christian Rewoldt	D.C.
		Cox, Herman Elmer	N.M.
		Cox, Lewis Calvin, Jr.	D.C.
		Cox, Wallace Keith	

Coyne, Joseph Patrick	D.C.	Davis, Clifford	Tenn.
A.B. 1939, St. Ambrose College		Davis, Donnell Preston	S.C.
Cozme, K. John	W.Va.	A.B. 1948, University of South Carolina	
Cozzi, Aldo John	N.Y.	Davis, Edwin Ianier	D.C.
B.S. 1946, M.S. 1947, Stevens		A.B. 1947, LL.B. 1948, The George	
Institute of Technology		Washington University	
Craddock, William Wood	Md.	Davis, John Mason	Fla.
Cragoe, John Henry	D.C.	B.S. in M.E. 1940, University of	
Craig, Paul Max	D.C.	Illinois	
Dr. juris utr. 1911, University		Davis, Joseph Reid	Tex.
Erlanger, Bavaria		Davis, Sadye Jane	Pa.
Certificat de Science Pénale 1913,		A.B. 1947, The George Washington	
Sorbonne, Ecole de Droit, Paris		University	
Crammond, James Darwin	D.C.	Dawson, Howard Atholene, Jr.	Va.
Craze, Esther Schyl	N.M.	B.S. 1946, University of North Caro-	
Craze, James Leald	D.C.	lina	
Craze, Thomas Dodds	Pa.	Dawson, Roger Ralph	Mont.
Creeker, Hugh Cassell, Jr.	Va.	LL.B. 1948, The George Washington	
Crewer, William Penn	D.C.	University	
Croellman, John Alvin	Va.	Day, Ernest Herbert	Ohio
B.S. 1931, LL.B. 1930, LL.M. 1941,		A.B. 1941, Oberlin College	
Georgetown University		Dayton, William Russell	Ohio
Cronin, G. S. Homer,	Mass.	A.B. 1925, Wittenberg College	
Ph.B. 1937, College of the Holy Cross		Dea, Franklin	Calif.
Crosbie, Paul James	Md.	A.B. 1948, University of Maryland	
Cullen, Frank Haswood	Va.	Dean, John Joseph	Va.
Calpepper, Robert Everett	N.Y.	A.B. 1941, LL.B. 1948, The George	
A.B. 1948, The Citadel		Washington University	
Culver, Walter Francis	Nev.	Dean, Thompson	D.C.
A.B. 1942, University of Nevada		A.B. 1915, Harvard University	
Cundiff, Charles	Va.	Dean, Willis Calvin	Va.
B.S. in M.E. 1936, The George		DeBarr, John Richard	Pa.
Washington University		A.B. 1947, Bucknell University	
Currin, John Langford	Va.	DeBlasis, Samuel Joseph	Ohio
Curry, John Vincent	N.Y.	DeBrow, Wesley	Ohio
Curry, Stowers Leigh	Va.	B.S. in E.E. 1946, Illinois Institute	
Cushman, Robert Everton	Minn.	of Technology	
B.S. 1945, United States Naval		Deck, William Horace	Md.
Academy		B.S. in B.A. 1942, University of	
Cutler, Charles Russell	Ill.	Tennessee	
B.S. 1945, California Institute of		De La Cosa, John Albert	D.C.
Technology		B.S. 1937, Villanova College	
		de la Garza, Hector Ruben	Tex.
		Delasos, Lewis	D.C.
D		A.B. 1948, The George Washington	
Daleda, Joseph	D.C.	University	
B.S. 1934, Massachusetts Institute of		Del Russo, Alessandra Luni	D.C.
Technology		Doctor Litter 1939, Doctor Jurisp	
LL.B. 1942, The George Washington		1943, University of Milan	
University		Dembling, Paul G.	N.J.
Daley, William John	Mass.	A.B. 1940, A.M. 1942, Rutgers Uni-	
A.B. 1941, Tufts College		versity	
Dalton, Stanley Charles, Jr.	D.C.	Dennemeyer, John James	D.C.
B.S. 1947, Rensselaer Polytechnic		Dent, Richard Judson	Va.
Institute		Dentz, Edwin James	D.C.
Daniel, William Jeffress	N.C.	DePaul, Joseph Alfred	Md.
B.Ch.E. 1947, North Carolina State		DeRosa, Edward Francis	Mass.
College of Agriculture and Engi-		A.B. 1947, The George Washington	
neering		University	
Daniels, Thomas John	Pa.	DeRosa, Felix Michael	N.Y.
Danzon, Pascal Joseph	Pa.	A.B. 1941, Cornell University	
Daniel, Lewis R., Jr.	Ohio	LL.B. 1943, Fordham University	
Darsch, Earl Clement	Va.	Derr, Charles Ivan	Pa.
A.B. 1941, Western Maryland College		A.B. 1939, Illinois Wesleyan Uni-	
Dastrel, Robert Herbert	Calif.	versity	
B.S. 1939, United States Naval		Derrick, Duane Greenwood	Utah
Academy		Deters, Martin Paul, Jr.	N.Y.
Dauer, Maxwell	D.C.	A.B. 1945, Williams College	
A.B. 1935, M.S. 1937, New York		Deutsch, Norman	N.Y.
University		B.Ch.E. 1944, M.Ch.E. 1948, New	
David, Maurice Allen	Ind.	York University	
Davies, John Rhys	W.Va.	Devison, Roderick Andrew	W.Va.
A.B. 1946, University of North		B.S. 1943, West Virginia University	
Carolina			

Dibner, Richard Eugene	N.Y.	Downs, Harold Alfred	Va.
B.M.E. 1943, College of the City of New York		Drain, Richard Dale	D.C.
Dicke, Allen August, Jr.	Va.	A.B. 1941, LL.B. 1948, Yale University	
B.S. 1947, Lehigh University		Drimmer, Saul E.	N.Y.
Dickson, James Meek	Md.	B.S. 1940, The George Washington University	
Diemer, Robert Arthur	D.C.	Driver, William Joseph	Va.
Dietz, Stanley Martin	N.Y.	B.B.A. 1941, Niagara University	
Diley, John Edward	Pa.	Drysdale, Robert Morrison, Jr.	Mich.
Dillon, Edward Scott	D.C.	A.B. 1916, Harvard University	
B.S. 1932, University of Illinois		Dubiel, Joseph Michael	Va.
DiMona, Joseph Michael	N.J.	B.S. 1928, University of New Hampshire	
A.B. 1947, Duke University		Duff, Alfred James	Pa.
Dingess, Harvey David	D.C.	A.B. 1947, Pennsylvania State College	
A.B. 1947, Marshall College		Dugan, Michael Hugh	W.Va.
Dixon, Frank Farr	N.Y.	Duke, Norman Edward	Va.
Dixon, Robert Galloway	N.Y.	A.B. 1934, LL.B. 1935, University of Notre Dame	
A.B. 1943, Ph.D. 1947, Syracuse University		Dum, Frank Bryan	Va.
Dixon, Rod Paul	Utah	Dumaine, Gabriel Romain	D.C.
A.B. 1947, University of Utah		A.B. 1948, The George Washington University	
Dixon, Thomas Wilson	Md.	Dunning, Alice Langley	N.Y.
Dixon, William Joseph	D.C.	A.B. 1943, Queens College	
Doane, John Emil	Md.	A.M. 1944, Clark College	
Dobkin, Abraham	N.Y.	Dunning, Worth Louis	Md.
A.B. 1948, The George Washington University		Durgin, Franklin Willoughby	D.C.
Dobres, Jeanne Louise	Md.	Dwyer, Jean Ferguson	D.C.
Dodge, Austin Phelps	Md.	A.B. 1948, The George Washington University	
B.S. 1944, Massachusetts Institute of Technology		Dwyer, John Joseph	Mass.
Dodge, John Parker	MI	Dyck, William Donald	Kans.
A.B. 1940, Johns Hopkins University		Dysart, Thomas Gilmore	Mo.
Doe, Norman Rosa	Mass.	B.S. in M.E. 1943, University of Missouri	
A.B. 1948, Marshall College			
Doine, Charles Halleck	D.C.		
Dollard, James	Md.		
A.B. 1939, College of the City of New York			
Donald, Samuel Everett	D.C.		
A.B. 1911, Lynchburg College			
Donelson, Kenneth William	N.C.		
Doney, Jack Carlton	Nebr.		
Donnelly, Henry Joseph	Md.		
B.S. 1928, C.P.A. 1940, University of Pennsylvania	Va.		
Donnelly, Richard Charles	D.C.		
Donnelly, William Francis	D.C.		
Donnelly, William James	Md.		
Dorie, William Matthew	N.Y.		
Dorsey, Benjamin Henry	D.C.		
B.S. 1945, University of Pennsylvania			
LL.B. 1948, The George Washington University			
Dotson, Edwin John	Nebr.		
Doty, Dale Edward	Calif.		
A.B. 1936, Pomona College			
A.M. 1938, University of Cincinnati			
Doub, Dorothy Loucille	N.C.		
A.B. 1941, Brenau College			
Dougan, William Page	Tenn.		
B.S. 1939, University of Tennessee			
Dougherty, Frank Robert	D.C.		
A.B. 1946, The George Washington University			
Dougherty, Thomas James	N.D.		
Douglas, Eleanor Preston	Fla.		
B.S. 1943, University of Alabama			
Dowell, Arthur Edward	D.C.		
B.S. 1943, Princeton University			
Dowell, Earl Simeon	D.C.		
B.S. 1947, University of Illinois			
Downes, John Pershing	N.Y.		

Elias, Jack Isidor B.B.A. 1941, College of the City of New York	N.Y.	Fay, Robert Jesse B.S. 1942, Massachusetts Institute of Technology	Ohio
Elliott, Ralph Earle, Jr. Elliott, Stephan Lyons Elliott, William Homer, Jr. A.B. 1946, Wesleyan University	Ill. D.C. N.J.	LL.B. 1948, Western Reserve University	
Ely, Robert Burroughs A.B. 1926, Emory and Henry College LL.B. 1926, The George Washington University	Va.	Fedirko, Walter A.B. 1947, Cornell University	N.J.
Embrey, Lemuel Jackson A.B. 1917, The George Washington University	Va.	Fengler, Charles Seymour A.B. 1945, College of the City of New York	Md.
Engelhardt, Charles William Engelthaler, Fred Edward B.S. 1918, Illinois Institute of Technology	D.C. Ill.	Feldman, Melvin Martin Fellers, Raymond David Fellows, William Albert Fender, Ross Calvin Fenderson, Ralph Leon, Jr. A.B. 1942, University of California at Los Angeles	D.C. N.J. Magne Nebr. Ariz.
Engle, Clarence Hess, Jr. A.B. 1944, University of Kansas	Kans.	Ferber, Ruth Sures A.B. 1946, The George Washington University	Pa.
English, Thomas Young A.B. 1910, The George Washington University	Tenn.	Ferrill, Grace Cecelia A.B. 1948, The George Washington University	R.I.
Ergas, Isaac B.M.E. 1948, New York University	N.Y.	Ferry, John Paul A.B. 1917, B.S. 1918, St. Joseph's College	Va.
Esch, Arthur Gerald B.S. 1940, United States Naval Academy	Ill.	Fiddler, Robert William B.M.E. 1946, College of the City of New York	N.Y.
Eslinger, Frank Robert B.S. 1946, University of New Mexico	Va.	Field, Lawrence Irving B.S. 1943, College of the City of New York	Pa.
Esteve, Henry Evans, Walker Williams B.S. 1910, Presbyterian College	Fla. D.C.	Field, Milton Mortimer B.S. in E.E. 1948, University of Nebraska	N.Y.
Even, Francis Alphonse B.S. in M.E. 1943, University of Illinois	Ill.	Fields, Oden Wilson A.B. 1944, University of California	Calif.
F			
Fahrney, John William A.B. 1948, The George Washington University	D.C.	Fields, Paul Henry, Jr. Filippone, Frank Joseph Filippone, Joseph Stephen Fink, Walter Gordon B.M.E. 1949, Johns Hopkins University	Va. Md. N.Y. Md.
Fain, Martin Robert Fair, Robert James A.B. 1947, The George Washington University	D.C. Ind.	LL.B. 1948, Temple University	
Fairbanks, Eugene Francis Falk, Morris Falloon, James Hugh, Jr. A.B. 1948, The George Washington University	Mass. Conn. Nebr.	Finders, Lee McLaughlin A.B. 1943, University of Iowa Findley, William Joseph A.B. 1941, M.D. 1947, University of Texas	Iowa Wash.
Fanver, Louis Alfred A.B. 1936, Rutgers University	N.J.	Finkelstein, Saul Louis Finken, Warren Elmer B.S. 1948, University of Wisconsin	N.Y. D.C.
Farnsworth, Carl Davis Ph.B. 1942, West Virginia University	W.Va.	Finley, Charles Truman Finney, Robert Ross Firsht, Peter Hengeshomer B.S. 1941, Drexel Institute of Technology	Md. D.C. Va.
Farrell, Edward Henry, Jr. Farrell, John Joseph B.S. 1946, University of South Carolina	N.J. D.C.	Fischer, Harry Carl Fischer, John Janos Fisher, Henry Arthur A.B. 1943, West Virginia University	S.C. D.C. W.Va.
Farris, Raymond Fasson, John Howard A.B. 1946, University of Maryland	N.C. Md.	Fisher, John H. Doctor of Laws 1931, University of Prague	D.C.
Faubion, Urban Hart B.S. in E.E. 1948, University of Texas	Tex.	Fitzgerald, Donald Edward Fitzsimmons, James F. Fitzsimmons, James William B.M.E. 1942, Polytechnic Institute of Brooklyn	D.C. Calif. N.Y.
Fausel, Walter Eugene B.S. 1920, Pennsylvania State College LL.B. 1948, Washington and Lee University	N.J.	Flanagan, Bernard Lawrence Flanagan, Winifred Winsor A.B. 1939, University of Chicago	Utah D.C.
Faust, James Emory A.B. 1948, The George Washington University	D.C.		
Favarella, Fiodie Paul	Pa.		

Flanders, Robert Lee A.B. 1946, The George Washington University	Tex.	Freudenberg, Maxwell Charles B.S. in E.E. 1948, University of Illinois	Ill.
Flax, Louis B.S. 1943, University of Maryland	D.C.	Frick, Charles Ellis	W. Va.
Fleishman, Irving	D.C.	Fried, Alfred Samund	Md.
Fleming, Lester Leroy	D.C.	Friedman, Gerald	D.C.
Fletcher, Benjie Lyle, Jr.	Va.	Friedman, Martin Leonard	N.J.
Flint, George M. A.B. 1940, Harvard University I.L.B. 1948, The George Washington University	Mass.	Friedman, Norman B.M.E. 1945, College of the City of New York	N.Y.
Fliss, Richard Konrad	Wis.	Friedman, Sol	Md.
Floanders, Mary Hall A.B. 1948, Radcliffe College	Pa.	Frome, Julius B.S. 1936, College of the City of New York	D.C.
Foley, James Kieran	N.Y.	Fry, Ernest William	D.C.
Foley, Michael Edward	D.C.	Fryer, Norman Ewing, Jr.	Md.
Foley, William John B.S. in M.E. 1948, Missouri School of Mines and Metallurgy	Mo.	B.S. 1938, United States Naval Academy	Md.
Forman, Edward A.B. 1942, College of the City of New York	Va.	Funkhouser, Claude B.S. in M.E. 1943, University of Missouri	Mass.
Forman, Leonard B.S. 1940, College of the City of New York	N.Y.	Furber, M. Alfred	D.C.
Forrest, Herbert Emerson A.B. 1948, The George Washington University	N.Y.	Furson, Robert Henry	Calif.
Fort, James Frazier	Tenn.	Furst, Howard Irving A.B. 1942, University of California at Los Angeles	N.Y.
Fortney, Gordon A.B. 1942, University of Wisconsin	Va.	Futoran, Josef B.S. 1935, M.S. 1936, College of the City of New York	N.Y.
Fortune, William Charles	N.C.	G	
Foster, George Howard B.S. 1942, United States Naval Academy	N.C.	Gable, Robert Barth	Pa.
Foster, Marion Julian B.S. 1940, University of Virginia	Va.	Gabletsa, Mary Jane A.B. 1947, Wellesley College	N.H.
Fowle, John Robert	D.C.	Gail, William Albert B.S. in M.E. 1948, University of Illinois	Va.
Fox, Edward Louis	Okla.	Gainey, Bartus Allen	D.C.
Fox, Lawrence A.B. 1944, Clark University M.S. 1945, Syracuse University	N.Y.	Galane, Morton Robert B.E.E. 1946, College of the City of New York	N.Y.
Frahm, Herbert Standish	D.C.	Galina, Victor John LL.B. 1941, Georgetown University	N.Y.
Frank, Kitty Blair A.B. 1941, University of Wisconsin	D.C.	Galysh, Theodore Richard B.S. 1946, Villanova College	Conn.
Frank, Robert Derlinger A.B. 1940, University of North Carolina	D.C.	Gardner, Edith Ross A.B. 1943, University of California at Los Angeles	Va.
Frankel, Abraham B.S. 1933, Brooklyn College B.M.E. 1941, Cooper Union	N.Y.	Gardner, Spencer Delos Gareau, Charles Frederick B.S. in M.E. 1939, The George Washington University	Mich. Mass.
Franklin, Jordan B.S. 1946, Worcester Polytechnic Institute	Mass.	Garlock, Edward Allen B.S. 1943, The George Washington University	Md.
Franklin, Joseph Gardner A.B. 1948, The George Washington University	Md.	Garrett, C. Donald B.S. 1941, Franklin and Marshall College	Va.
Franklin, Rufus Matteson B.S. 1947, Massachusetts Institute of Technology	R.I.	Garrett, Rufus Sanders, Jr. B.S. 1946, United States Military Academy	Tex.
Franzman, Carl Walter	Va.	Garris, Jack J. A.B. 1947, University of Michigan	Mich.
Fratt, Nicholas Diller	D.C.	Garro, Edward Joseph	Nev.
Fredrick, Flet Henry	Okla.	Gates, Walter Samuel A.B. 1942, Centre College	Ky.
Freedman, William B.S. in M.E. 1945, Duke University	N.C.	Gaudet, Richard Austin B.S. 1947, University of Rochester	Mass.
Freeman, Robert Mendel B.E.E. 1944, College of the City of New York	N.Y.	Gaughan, Vincent Michael	N.Y.
French, William Thomas B.Ch.E. 1943, University of Florida	Fla.	Gauss, Arthur B.S. in E.E. 1933, Drexel Institute of Technology	Md.
Freret, Betty Strachan B.B.A. 1942, Tulane University	Va.		

Gearheart, Ernest Theodore, Jr. A.B. 1916, University of Richmond	Va.	Goodpasture, Maurice Carroll A.B. 1941, Texas Technological College	Tex.
Geissler, Harry Conrad	N.J.	Goodwin, Thomas Addison A.B. 1942, Washington and Jefferson College	W.Va.
Gelak, Bernard Andrew B.S. in E.E. 1947, Syracuse University	N.Y.	Goodwyn, Jean Bundy A.B. 1949, College of William and Mary	Maine
Gemza, Theodore Anthony George, George Ezekiel A.B. 1941, Harvard University	Conn. D.C.	Gordon, Francis Guthrie Gordon, Herbert Stephan A.B. 1947, Indiana University	Va. Ind.
LL.B. 1948, The George Washington University		Gordon, Raymond Joseph B.S. 1948, Georgetown University	D.C.
Gerhardt, Robert Bernard B.S. in M.E. 1947, Northeastern University	Ill.	Gordon, Robert N. A.B. 1948, University of Buffalo	D.C.
Germas, Demosthenes James Giangreco, Angelo Andrew	D.C. N.Y.	Gordon, Thomas Cooper Goren, Howard J.	Va. Md.
Gibbs, David Parker B.S. 1933, United States Military Academy	Va.	Gorran, Gerald Malvin Gottshall, William Holt A.B. 1948, Allegheny College	N.J. D.C.
Gibbs, Richard DeArmond A.B. 1947, The George Washington University	D.C.	Gourley, Roy George B.S. 1948, University of Alabama	Pa.
Gibbs, Robert Stewart Gibson, John M. B.S. 1914, Washington and Jefferson College	N.Y. Pa.	Graham, Jack Eugene B.S. 1948, Simpson College	Iowa
Gifford, Yale Wesley A.B. 1947, The George Washington University	Kans.	Graham, Robert Albary Grainick, Paul Philip A.B. 1919, Brooklyn College	Tex. N.Y.
Gilbert, Milton Edwin B.M.E. 1948, College of the City of New York	D.C.	Grammer, David Allen, Jr. B.B.A. 1947, University of Texas	N.M.
Gilfix, Roy Hart B.S. 1944, University of Maryland	D.C.	Grass, Louis William B.S. 1944, Missouri School of Mines and Metallurgy	Mo.
Gilmore, Frank Peter B.S. 1927, M.D. 1929, Loyola University	Ill.	Grasso, Michael B.S. 1946, Bucknell University	N.J.
Gingell, Robert Arthur A.B. 1948, The George Washington University	Md.	Gravatte, Robert Howerton, Jr. A.B. 1941, LL.B. 1947, University of Virginia	D.C.
Ginsberg, Albert Gintana, Thomas Morton, Jr.	N.Y. Md.	Gray, Daniel William Gray, John Allan	D.C. N.J.
Glasgow, Norman Milton LL.B. 1943, University of Maryland	Md.	Gray, Louis Patrick B.S. 1949, United States Naval Academy	Tex.
Glasgow, Richard Ellsworth A.B. 1948, Bradley Polytechnic Institute	Ill.	Graybeal, John Olin B.S. 1944, College of Puget Sound	Wash.
Ghadden, William Townsend A.B. 1944, Yale University	Mass.	Green, Harold Hoadly, Jr. B.S. in E.E. 1947, Purdue University	Ohio
Glowacki, John Henry Goshberg, Lawrence	Pa. Conn.	Green, Richard Etter A.B. 1947, The George Washington University	D.C.
Gosling, Maurice Wilfred A.B. 1933, Yankton College	Alaska	Green, Robert A. A.B. 1942, Clark University	Md.
Goewey, Bruce Anderson A.B. 1942, Colgate University	Mass.	B.S. in E.E. 1948, University of Michigan	
Goldman, Alfred Merton Goldman, Samuel Zachary	D.C. D.C.	Green, Samuel Greenberg, Mack Kenneth	D.C. Mass.
Goldsand, Ronald Howard Goldthorpe, George Joseph, Jr. B.S. 1947, United States Military Academy	N.Y. Md.	LL.B. 1927, Boston University Greenberg, Sidney B.S. 1940, Massachusetts State College	Mass.
Goldstein, Benjamin B.S. 1931, M.B.A. 1932, College of the City of New York	D.C.	Greene, Gale Kensington Greenwald, Robert Frederick	Conn. Tex.
Good, Charles Lloyd B.S. in Ch.E. 1942, Purdue University	Md.	Greeve, Gerald Joseph A.B. 1928, Georgetown University	Pa.
Goodman, Thomas A. B.S. 1917, State Teachers College, Buffalo, N.Y. A.M. 1939, Columbia University	N.Y.	LL.B. 1931, University of Pennsylvania Gregg, James Calvin Grenadier, Albert Harold A.B. 1949, The George Washington University	Pa. Va.
		Grier, Harold Thomas	D.C.

Griffith, Eugene Everett	Tenn.	Happick, Richard Jay	N.Y.
A.B. 1927, The George Washington University		B.M.E. 1948, Syracuse University	
A.M. 1937, Columbia University		Harbaugh, George Harold	D.C.
Grobman, William	N.J.	A.B. 1948, Rutgers University	
B.S. in E.E. 1944, Rutgers University		Hardin, Dale Wayne	Ill.
Gross, William, Jr.	Wis.	Hare, Robert Hayne	S.C.
A.B. 1940, The George Washington University		A.B. 1941, Newberry College	
Grove, Jesse Barrett, Jr.	Va.	LL.B. 1935, University of South Carolina	
B.S. 1930, Virginia Polytechnic Institute		Hargesheimer, Halbert Vincent	D.C.
Grumling, Albert John	Pa.	Harley, Francis Robert	Md.
Guerra, Alfonso Angel	Tex.	A.B. 1948, The George Washington University	
Guimond, Joseph Alexandre	Ohio	Harmon, Robert Brooks	D.C.
A.B. 1941, LL.B. 1933, Western Reserve University		B.S. 1941, University of Maryland	
Gulko, Arnold George	N.Y.	Harper, Lawrence Mervin	Pa.
B.Ch.E. 1947, New York University		A.B. 1942, Pennsylvania State College	
H			
Haberman, David Isidore	Md.	Harper, Richard Howard	W.Va.
Haelele, Carlton Walthert	Va.	Harrington, Joseph Michael	Iowa
B.S. 1942, Case Institute of Technology		A.B. 1944, State University of Iowa	
Hagan, William T.	Mich.	LL.B. 1947, The George Washington University	
Ph.B. 1942, University of Detroit		Harris, Chancellor Elwood	Va.
Hagle, Alfred Darius	Okla.	B.S. 1934, University of Kentucky	
A.B. in Ed. 1947, Central State College		Harris, John Alfred	D.C.
Haidt, Harold	N.Y.	B.S. 1946, University of Illinois	
B.S. in Ch.E. 1947, Purdue University		Harris, Richard Carl	Iowa
Hall, Joseph Earl	W.Va.	B.S. 1947, Iowa State College of Agriculture and Mechanic Arts	
Hallberg, Ernest Van	Fla.	Harris, Shirley	Va.
A.B. 1942, University of Florida		A.B. 1944, Wellesley College	
Hamby, John Gordon	Ky.	Harrison, Byron Edward	D.C.
B.M.E. 1947, University of Kentucky		Harrison, Haldon Roberts	Va.
Hamilton, Lloyd William	D.C.	A.B. 1947, The George Washington University	
A.B. 1948, The George Washington University		Hart, Seward Lyman	S.D.
Hamilton, Pat Ray	W.Va.	A.B. 1948, Yankton College	
Hamilton, Roger Kirkpatrick	Tenn.	Hart, Wilson Ritter	N.M.
Hamlin, Alan Holden	Fla.	A.B. 1942, University of New Mexico	
Hammarstrom, Everett John	Mass.	Hartman, Charles Clifford, Jr.	Calif.
A.B. 1947, Clark University		Harvey, Robert Henry	D.C.
Hammer, David Edwin	Ill.	A.B. 1948, The George Washington University	
Hammond, Seymour Blair	Utah	Haskell, Boris	Mass.
B.S. in E.E. 1945, University of Washington		A.B. 1944, Harvard University	
M.E.E. 1948, Cornell University		Hattis, Russell Elmer	D.C.
Hance, Edward	Fla.	B.S. in E.E. 1947, University of Illinois	
B.S. 1946, University of South Carolina		Hauck, Raymond Lehigh	Ind.
Hancock, John Cochrane	Md.	Hauck, William McRae	Md.
A.B. 1943, Western Maryland College		Hawkins, Thomas Jackson	D.C.
Hancock, Katharine I.	Calif.	Hayek, Will J.	D.C.
A.B. 1942, University of California		Hayes, Robert William	N.Y.
Hancock, Quinlan Harris	Va.	A.B. 1939, Columbia University	
Handler, Chester J.	D.C.	Hays, Raymond Leroy	D.C.
Handy, John Bruce, Jr.	D.C.	A.B. 1946, The George Washington University	
A.B. 1943, Washington and Lee University		Healey, Alan John	D.C.
Hanley, Charles	N.Y.	A.B. 1948, The George Washington University	
Hannood, Raymond Thomas	Mass.	Hearing, Vincent Joseph	D.C.
A.B. 1935, Dartmouth College		Hearn, Alexander McMurray	Mo.
Hanson, Henry, Jr.	Conn.	Hecht, Irving Mark	Md.
A.B. 1940, Wesleyan University		B.B.A. 1947, College of the City of New York	
A.M. 1941, Harvard University		Hedley, Robert Kenneth	Ill.
Hantman, Alfred	N.Y.	Heeney, Elizabeth Anne	D.C.
A.B. 1939, Brooklyn College		A.B. 1946, State Teachers College, Montclair, N.J.	
Hapeman, Lucy Ann	Nebr.	Heinisch, Ned O.	W.Va.
A.B. 1946, University of Nebraska		A.B. 1942, Marshall College	

Hellmuth, James Grant	D.C.	Holbrook, Ollie James	Ky.
B.S. 1948, Yale University		Holcombe, William Callis	Ala.
Helstrom, Warren Richard	Ill.	A.B. 1947, The George Washington University	
A.B. 1943, DePauw University		Holeman, William Daniel	Tenn.
Helzer, Charles William	Fla.	Holford, Bond Larry	Md.
B.S. in E.E. 1945, Georgia School of Technology		Holland, Garin Edward	D.C.
Hendershott, Susan Jane	Md.	Holland, Griffin Bryan	Md.
Hendricks, William Charles	N.C.	B.S. 1947, University of North Carolina	
Henry, Edwin Stanton, Jr.	D.C.	Holland, Townsend Stanley, Jr.	Md.
Henry, Patrick Francis	Ga.	B.S. 1946, University of North Carolina	
B.S. 1945, Georgia School of Technology		Holleman, Joseph Tullie	Ky.
Henson, Edwin Nott, Jr.	D.C.	B.S. 1945, United States Naval Academy	
A.B. 1948, The George Washington University		Hollingsworth, Gerald Eugene	D.C.
Herman, Jack Robert	Va.	Hollister, Robert Francis	D.C.
A.B. 1943, The George Washington University		B.S. in B.A. 1943, LL.B. 1948, Georgetown University	
Herndon, William Clifton, Jr.	Tex.	Holt, Edward Brewster	Ill.
Herrick, Harold Colton, Jr.	Mo.	B.S. 1947, University of Michigan	
B.S. 1937, Washington University		Holter, William Clinton	Va.
Herring, Paul Littleton	Md.	A.B. 1947, Ripon College	
B.S. 1946, University of Maryland		Holtzman, Irving	N.Y.
Hewlett, Glenn Howard	Ill.	A.B. 1940, Brooklyn College	
Hiers, Jasper Theodore	N.C.	Holyfield, Thomas Kenney	Miss.
Higgins, Frank Victor	Va.	A.B. 1941, Millsaps College	
B.S. 1941, Bradley Polytechnic Institute		Honabach, Elmer Wilson	Va.
Hill, George Richards	Pa.	Honecker, Benjamin Robert	W.Va.
Hill, Joseph Carl	Md.	B.S. 1941, University of Pennsylvania	
B.S. 1940, Mount St. Mary College		Hood, Charles Fuller	Colo.
Hill, William Bethel, Jr.	Va.	A.B. 1947, Colorado State College of Education	
B.Ch.E. 1941, University of Virginia		Hoopes, Townsend Walter	N.Y.
Hillier, Floyd William	Wis.	A.B. 1943, Yale University	
B.S. 1948, Michigan State College of Agriculture and Applied Science		Hopper, Nathaniel Wilson	Md.
Hillman, Jack Allan	D.C.	Horenstein, Leon Russell	D.C.
Himelfarb, Jordan Sheldon	D.C.	B.S. 1943, Northeastern University	
Hinsdale, Charles Edwin	N.C.	Horkan, George Anthony, Jr.	D.C.
A.B. 1940, University of North Carolina		A.B. 1943, University of Pennsylvania	
LL.B. 1946, The George Washington University		Horne, Leon Russell	Mass.
Hirsch, Robert Bruce	Md.	B.S. 1943, Northeastern University	
Hirshberg, Robert Lowe	Ohio	Horowitz, Herbert David	Pa.
A.B. 1940, Oberlin College		LL.B. 1948, The George Washington University	
Hiss, Alfred Lee	W.Va.	Horton, Donald Raymond	N.D.
Hix, Ernest Theodore	Va.	A.B. 1948, State Teachers College, Valley City, N.D.	
B.M.E. 1949, The George Washington University		Horwitz, Harold	N.Y.
Hobbes, Alan Buxton	Fla.	Housesal, Robert Wright, Jr.	S.C.
A.B. 1939, Washington and Lee University		B.S. 1943, The Citadel	
LL.B. 1947, The George Washington University		Houston, James Knox	N.Y.
Hodges, Quinton Edward	Ga.	Howes, Charles E.	Ohio
B.S. 1935, University of Georgia		Hoyt, John G.	Ohio
M.S. 1937, John B. Stetson University		B.S. 1943, United States Military Academy	
Hodges, Raymond Lewis	D.C.	Hubbard, Russell Hale, Jr.	Conn.
B.S. 1941, University of Maryland		B.S. in E.E. 1944, Syracuse University	
Hodges, Willard Jefferson, Jr.	Ala.	Hudgins, John Jefferson	D.C.
LL.B. 1937, University of Alabama		Hudson, Dugald Walker	S.C.
Hodson, Kenneth Joe	Wyo.	B.S. 1940, Presbyterian College	
A.B. 1935, LL.B. 1937, University of Kansas		Huey, Robert Carter	D.C.
Hoffman, Robert Douglas	Md.	Huffman, William Ewart	Md.
Hoffman, Rubin	Md.	Hull, Maury Isaac	Tenn.
B.Ch.E. 1937, College of the City of New York		A.B. 1932, Southwestern University	
Hogan, Edward Eugene	N.Y.	A.M. 1946, The George Washington University	
Ph.B. 1931, M.D. 1936, Yale University		Hulvey, Charles Newton, Jr.	Va.
		B.S. 1936, University of Virginia	
		Humes, Theodore Leon	Pa.
		A.B. 1948, University of Pittsburgh	

Hundley, Henry Robert	W.Va.	Johnson, Donald Lewis	S.C.
Hunt, Leigh Hale	Ill.	B.Ch.E. 1947, Purdue University	
A.B. 1928, LL.B. 1930, University of Illinois		Johnson, Leighton Eugene	Va.
Hunter, Millard Stanton	N.C.	Johnson, Norton Steele	D.C.
B.S. 1938, University of North Carolina		Johnson, Olin Beeler	Mo.
Hurkett, Jack Walter	D.C.	A.B. 1944, Western Michigan College of Education	
Hurley, John James	D.C.	Johnson, Richard Carl	D.C.
A.B. 1948, The George Washington University		Jones, Cullen Bryant	D.C.
Hurson, James Vincent	Md.	A.B. 1948, The George Washington University	
B.S. 1948, American University		Jones, Darrell Lloyd	Tex.
Hussar, Edward John	Ill.	Jones, Everett Craig, Jr.	N.C.
A.B. 1946, The George Washington University		Jones, Jack Clayton	Okl.
Hutchinson, Eileen Marie	D.C.	B.Ch.E. 1910, Oklahoma Agricultural and Mechanical College	
Hutson, Harrison Darlen	La.	Jones, James Frederick	D.C.
A.B. 1948, Southeastern Louisiana College		Jones, Theodore William	Ohio
Hyde, Edward Richard	N.Y.	A.B. 1947, Western Reserve University	
B.S. in E.E. 1948, Purdue University		Jongbloet, Louis	D.C.
Hyer, William Fred	Tex.	A.B. 1932, Villanova College	
B.S. 1942, Oklahoma Agricultural and Mechanical College		A.M. 1934, Duke University	
Hymowitz, Helen	D.C.	LL.B. 1947, The George Washington University	
Hymowitz, Shirley L.	D.C.	Jordan, George Sanford	D.C.
		Julien, Carl Alden	Oreg.
		B.S. 1945, University of Washington	
		M.S. 1947, University of Notre Dame	
Imlay, Carl Hudson	D.C.		
A.B. 1946, Harvard University			
Ionnitis, Mircea	D.C.	K	
LL.B. 1944, University of Buckard		Kaczmar, William	Pa.
Isaac, Isadore	D.C.	Kahn, Evans	N.Y.
Isom, Clifford Clinton	Ill.	A.B. 1942, Yale University	
B.S. 1939, Kansas State College		Kahn, Fritz Reiner	Md.
		Kahn, Kalvin	Pa.
		A.B. 1948, University of Pennsylvania	
		Kaiser, Stanley Mortimer	D.C.
Jackson, Blaine Carroll	W.Va.	Kait, Harry Carl	N.J.
Jackson, Philip Grant	D.C.	B.S. 1928, Temple University	
Jackson, Thomas Lester	D.C.	LL.B. 1948, University of Newark	
Jacob, John Brevard	D.C.	Kalb, Vernon Fredric	Ky.
Jacobs, Arthur Alfred	Md.	B.S. in E.E. 1947, University of Kentucky	
B.S. 1939, New York University		Kalfus, Ira	N.J.
Jacobs, Morton Clifford	D.C.	Kalvin, Paul Craig	D.C.
B.S. 1942, College of the City of New York		A.B. 1948, The George Washington University	
Jacobson, Odd Thomas	N.D.	Kamm, Arthur Thorpe	D.C.
A.B. 1948, The George Washington University		A.B. 1947, American University	
Jaekel, George Marion	Fla.	Kaplan, Louis Charles	D.C.
A.B. 1948, Florida State College for Women		A.B. 1944, Yale University	
Janson, Lars Edward	Va.	LL.B. 1945, LL.M. 1948, Georgetown University	
Jarvis, Abbie Joseph	Mass.	Kappler, Charles Theodore	D.C.
Jasch, Verlin Elmer	Ind.	A.B. 1942, Yale University	
Jaskewitz, Edmund Michael	Conn.	Kardy, Leonard Thomas	D.C.
B.S. 1947, University of Connecticut		Kastel, Jessie Walton	Fla.
Jeffries, Albert Carmie	D.C.	Kator, Irving	N.Y.
A.B. 1948, The George Washington University		A.B. 1941, University of Michigan	
Jenkel, Albert Arthur	Iowa	Katz, Murray	N.Y.
Jessel, Martin John, Jr.	Iowa	B.Ch.E. 1947, College of the City of New York	
Jennings, Barnard Fulton	Va.	Kayson, David	D.C.
B.S. 1948, University of Virginia		Kearns, Lyman Coolidge	Vt.
Jensen, Willis John	Wyo.	Keating, William Joseph	Md.
B.S. 1947, Pennsylvania State College		B.S. 1940, United States Naval Academy	
Jernberg, Dale Leonard	Md.	Keith, Deane Ellington	Va.
Jeter, William Tyree	Okl.	B.S. 1947, University of Maryland	
Jividen, Randolph Lane	W.Va.	Kekich, John	Ohio
Jobe, Milton Lockwood	Ala.	B.Ch.E. 1943, Ohio State University	
Johnson, Charlotte Albertina	Minn.	LL.B. 1949, Georgetown University	
B.B.A. 1932, University of Minnesota			

Keller, Phillips Brooks	Tex.	Kirk, Charles Gilbert	D.C.
A.B. 1947, University of Texas		A.B. 1941, University of Washington	
Kelsey, Frank William	Mich.	Kirkman, Albert Gwinn, Sr.	Md.
Kelly, Wallace Ralph	D.C.	B.S. 1927, Virginia Polytechnic Institute	
A.B. 1948, American University			
Kellison, John Ray	Va.	Kirkpatrick, Allen	D.C.
B.S. 1941, University of Richmond		B.S. 1941, Massachusetts Institute of Technology	
Kelly, Catherine Burton	Md.	LL.B. 1948, University of Virginia	
A.B. 1939, Smith College		Kirsch, Martin Joseph	D.C.
Kelly, Edward Joseph	Pa.	Kirschbaum, Amiel	D.C.
B.S. 1949, Drexel Institute of Technology		B.S. 1937, University of Maryland	
Kelly, Edward Thomas	Ill.	Kitts, Willard Frederick	Mass.
Kelly, Francis Keith	D.C.	A.B. 1942, Amherst College	
A.B. in Govt. 1948, The George Washington University		Klavan, Stanley	Md.
Kelly, John Leo	Md.	Kipple, Mary Jane	Colo.
B.S. 1947, Georgetown University		A.B. 1946, The George Washington University	
Kem, John Worth	D.C.	Klitzman, Maurice H.	Ohio
A.B. 1949, Princeton University		B.S. in M.E. 1948, Purdue University	
Kemer, Frank Conrad	Md.	Klostermann, Wolfgang Ekart	D.C.
Kemp, Edward William	Iowa	Knapp, Norman	W.Va.
A.B. 1948, State University of Iowa		A.B. 1949, Morris Harvey College	
Kempton, Lawrence R.	D.C.	Knight, Robert Whitney	Md.
B.L.E. 1941, Ohio State University		Kohloss, Frederick Henry	D.C.
Kennedy, Joseph Bernard, Jr.	Va.	B.S. in M.E. 1943, University of Maryland	
A.B. 1947, The George Washington University		Kokulis, Paul Nicholas	N.H.
Kennedy, Oliver	D.C.	B.S. 1944, Worcester Polytechnic Institute	
Kenner, Jack Linwood	Va.	Kolodny, Joseph George	Mass.
LL.B. 1941, University of Louisville		A.B. 1948, Harvard University	
Kent, Arthur Peter	Va.	Kopp, Paul Joseph	Va.
B.S. 1941, The George Washington University		A.B. 1942, Lehigh University	
Kent, Perrin Aloysius	Mo.	A.M. 1943, Duke University	
A.B. 1941, The George Washington University		Korn, Seymour	N.Y.
Kerr, David Jay	Okla.	Kornblatt, Julius	N.Y.
A.B. 1947, The George Washington University		Kostik, Peter James	Ohio
Kerr, Richard Haller	W.Va.	Kostka, Fred Paul	Va.
A.B. 1948, West Virginia University		B.S. in M.E. 1942, Rhode Island State College	
Kerr, Thomas Moore, Jr.	N.J.	Koutoulakos, Louis	Va.
A.B. 1940, Lafayette College		Koutsandreas, Peter Dionysius	D.C.
Kilburne, Richard Francis	N.Y.	B.C.E. 1948, The George Washington University	
A.B. 1948, The George Washington University		Kozel, Alexander	D.C.
Kilby, Katherine Killeen	Va.	Kozlowski, Joseph John	Ill.
A.B. 1927, Trinity College		Kraft, Lester	Md.
Killea, William D.	N.Y.	A.B. 1948, University of Maryland	
A.B. 1941, University of Kentucky		Kramer, Jerome Frank	Ohio
Kinderman, Eugene John	Ill.	B.E.E. 1943, Ohio State University	
B.S. 1941, University of Illinois		Kravetz, Herman	Md.
King, Donald Kyle	D.C.	Kreek, Louis Francis	D.C.
A.B. 1948, The George Washington University		B.S. 1948, Massachusetts Institute of Technology	
King, Glenn Richard	Md.	Krist, Fred George	N.Y.
A.B. 1948, Gettysburg College		Kronak, Harry Donald	Pa.
Kinsley, David Bowen	Va.	B.S. in Ed. 1947, Temple University	
A.B. 1944, Alma College		Krubel, Frederick John	Ill.
Kinsel, Alan Edson	Va.	B.S. in M.E. 1943, University of Illinois	
A.B. 1948, The George Washington University		Krupotich, Edward	D.C.
Kinsel, James Nolan	D.C.	B.S. 1944, University of Colorado	
B.S. 1948, University of Maryland		Kuchler, Ralph Rudolph	Utah
Kinsler, James Brooks	Pa.	A.B. 1948, The George Washington University	
B.S. 1948, Pennsylvania State College		Kump, Mary Gamble	W.Va.
Kip, Ruloff Frederick, Jr.	N.J.	A.B. 1946, West Virginia University	
B.S. in E.E. 1943, Princeton University		Kune, Bernard Kack	D.C.
Kirby, Edward Francis	Conn.	Kunz, Karl Michael	R.I.
Ph.B. 1937, Providence College		Ph.B. 1941, Providence College	
Kirby, Ernest Calvin	Va.	LL.B. 1947, Georgetown University	

Kurz, Philip Elledge B.S. 1942, University of Maryland	D.C.	Lefer, Samuel Leikowitz, Saul B.S. 1940, College of the City of New York	D.C. N.Y.
Kyttle, Stuart Frederick A.B. 1948, The George Washington University	Md.	Legum, Howard Isadore A.B. 1941, Harvard University	Va.
L			
Laffin, Edward John Lazather, Robert Bosco Lagomarcino, Paul Donald L.L.B. 1948, State University of Iowa	Calif. Minn. Ill.	Lehnert, Robert Conrad Leighton, Donald McCulloch A.B. 1948, University of Nevada	N.Y. Nev.
Lafitte, James Albert, Jr. B.S. in E.E. 1943, Georgia School of Technology	Md.	Leimbach, Dorothy Gadbois A.B. 1948, Brown University	D.C.
Lainof, Robert Ivan B.S. 1939, North Carolina State Teachers College	Va.	Lekolich, Alex, Jr. Loney, Herber Carlton B.S. 1928, Oklahoma Agricultural and Mechanical College L.L.B. 1934, University of Oklahoma	N.J. Okla.
Lalande, Allen Lee Lally, Paul Thomas Lambert, Dean Warren A.B. 1948, Berea College	Tex. Va. Ky.	Lenfestey, James Albaugh Lerner, Theodore Nathan Lessuk, Gerald H. Levin, Edward Levin, Jacob Solomon Levin, Joseph Levin, Mark B.S. 1948, Princeton University	Fla. D.C. N.Y. Conn. D.C. D.C. Ill.
Lamberton, Alfred James A.B. 1933, University of New Hampshire	N.H.	Levine, Alred Bernard B.S. in E.E. 1946, Cornell University M.S. in E.E. 1948, Rensselaer Polytechnic Institute	Va.
Lane, Manson Harmon, Jr. B.S. 1948, Emory and Henry College	Va.	LeVine, Carl Ralph B.Ch.E. 1935, M.S.E. 1938, University of Michigan	Mich.
Lane, Edward Alexander B.S. in B.A. 1943, University of Florida	Fla.	Levine, Grace Eliza Levine, Irving Abraham Levine, Irving Seth B.S. 1941, M.S. 1941, Massachusetts Institute of Technology	N.Y. D.C. D.C.
Langholz, Ernest Frederick A.B. 1948, The George Washington University	Tex.	Levy, Donald B.S. 1947, University of Maryland	Md.
Langer, George Edward A.B. 1948, Union College	N.Y.	Levy, Harry B.S. in M.E. 1936, New York University M.S. 1946, Stevens Institute of Technology	N.J.
Lapham, George Sealy Lapins, Earl Michel Lasco, John Lashley, Glenn Thomas Latham, Leslie Wade A.B. 1937, Miami University A.M. 1939, University of Cincinnati	Ga. N.Y. Pa. Okla. Va.	Lewis, Arnold Charles B.S. 1947, College of the City of New York	N.Y.
Latt, Benjamin A.B. 1948, Brown University	R.I.	Lewis, Harry Frank A.B. 1939, West Virginia University	W.Va.
Laursen, Carl Richard A.B. 1939, L.L.B. 1941, University of Nebraska	Oreg.	Lewis, Irving A.B. 1948, University of Pennsylvania	Del.
Lavine, Irvin Arthur A.B. 1947, Catholic University of America	Va.	Lexa, Frank Joseph, Jr. A.B. 1943, University of Minnesota	Minn.
Lawrence, John Creig B.S. 1939, United States Naval Academy	Md.	Lhamon, George Marion B.S. 1939, United States Naval Academy	Calif.
Lawrence, Norman B.S. 1939, College of the City of New York	D.C.	Lieberman, Herman B.S. 1935, M.S. 1936, College of the City of New York L.L.B. 1942, The George Washington University	N.Y.
Lawrence, Willis Dale Lay, Kenneth Swift Layton, Walter Adonis	Nebr. Mo. Kans.	Light, E. Jerry B.S. 1946, Columbia University	Pa.
Leach, Daniel Joshua B.S. 1938, University of Minnesota M.S. 1946, Yale University	Minn.	Liken, Robert Lee Liljenquist, L. Blaine B.S. 1938, University of Idaho	Okla. Idaho
Leader, George Robert A.B. 1933, Pennsylvania State College	D.C.	Lindamood, Joseph Gavam, Jr. A.B. 1941, University of Maryland	Md.
Leary, James Edward A.B. 1948, Duke University	Ark.	Lindberg, Dale Sheldon A.B. 1943, Bucknell University	Pa.
Leary, Robert George LeClaire, Charles Homer A.B. 1940, Alma College M.B.A. 1942, University of Michigan	N.Y. Mich.	Lindley, Thomas Madison Lindquist, Wallace Alfred, Jr. B.S. 1949, Purdue University	Ariz. Ill.
Lee, Raymond B.S. 1948, Pennsylvania State College	N.Y.		

Line, Lucille A.B. 1940, State University of Mon-	Mont.	Lund, Van Metre B.S. 1944, Iowa State College of Agriculture and Mechanic Arts	Iowa
Lingreen, Edna A.B. 1934, A.M. 1935, State Uni- versity of Iowa	Iowa	Lundin, Dorothy A.B. 1917, Hunter College	D.C.
Linhof, Eric A.B. 1940, University of Rochester	N.Y.	Lundgren, Henry Willard	Wash.
Lipsky, Harold A.B. 1947, New York University	D.C.	Lundquist, George Arthur B.S. 1948, University of Maryland	Md.
Litke, Arthur Ludwig B.S. 1944, Trinity College M.B.A. 1947, University of Penn-	Conn.	Lundy, Julian Percy Lung, Ernest Herakiah B.S. 1918, University of Maryland	S.C. D.C.
Litteral, Kelley A.B. 1946, Washington and Lee University	Md.	Luyten, Maria Elsa MR. in de rechten 1946, Leiden University	Netherlands
Littman, Simon LL.B. 1931, University of Maryland	D.C.	Lyda, James Claude H. A.B. in Gov. 1948, The George Washington University	D.C.
Litwin, Albert A.B. 1918, Wayne University	Ill.	Lynch, William Charles Lynghy, Alfred Robert B.S. 1937, LL.B. 1940, University of Alabama	Conn. Fla.
Lockhart, Elizabeth Berkeley A.B. 1927, College of William and Mary	Va.		
Lockwood, Robert Kenneth A.B. 1943, Maryville College LL.B. 1948, The George Washington University	D.C.	Macaluso, Vincent Grondin A.B. 1948, Yale University	N.Y.
Lohm, Thomas Alexander Lokke, Bernard Molineaux London, John Monte A.B. 1941, Harvard University	Md. N.Y. N.Y.	MacCracken, William Lewis Machita, John A.B. 1948, The George Washington University	D.C. D.C.
Long, Dewey Cecil Long, George Edward Loomis, Jerome Lathrop B.S. in Ed. 1936, State Teachers Col- lege, Whitewater, Wis. A.M. 1942, Northwestern University	Okla. Md. Wis.	Mack, James Edward A.B. 1943, The George Washington University	D.C.
Loos, Dickson Randall A.B. 1945, Dartmouth College B.S. 1945, Yale University	Md.	Mack, John Halford B.S. 1937, University of New Hamp- shire	Md.
Lopez, Cornelio A.B. 1927, State University of Iowa	D.C.	Mackey, Argyle Robert Mackey, Leonard Bruce B.E.E. 1945, Rensselaer Polytechnic Institute	Va. N.Y.
Loren, Phyllis C. Lorenz, James Edward Lott, Fred Eli A.B. 1947, A.M. 1948, Syracuse Uni- versity	Minn. Ill. N.J.	MacMillan, John Howard MacNichol, Layton Frank A.B. 1942, The George Washington University	Md. D.C.
Louk, Ralph Glynn Lourie, Leonard Levy A.B. 1942, Miami University	Va. Ohio	MacRae, Duncan Shaw Magurn, Joseph John A.B. 1918, Harvard University	D.C. D.C.
Love, James William Loveless, Ernest Alvin A.B. 1943, University of Maryland LL.B. 1947, The George Washington University	Pa. Md.	Mahar, Daniel John Maher, Francis Patrick Maki, Walfred Victor Malecki, Robert Joseph B.S. 1943, Central State Teachers College	N.Y. Ter. Minn. Va.
Lowe, Ira Melvin Loy, John Irving A.B. 1942, University of California at Los Angeles	D.C. Va.	Malone, William Grady B.S. 1941, Louisiana State University Maltby, Wilson Ray A.B. 1910, Milton College A.M. 1931, University of Wisconsin	La. Va.
Luber, Shirley Natalie Lucas, Charles William Luck, William Bryant A.B. 1948, University of Richmond	D.C. Va. Va.	Maltman, William Leneave B.S. 1943, University of Oregon Mann, Donegan A.B. 1947, The George Washington University	D.C. D.C.
Luckett, Richard Samuel A.B. 1942, Randolph-Macon College	Va.	Manning, Charles Madison A.B. 1947, Union College	Ky.
Lukens, Frederick A.B. 1947, University of Idaho	Idaho	Manning, Glenn Franklin LL.B. 1948, University of Alabama	Ala.
Lukens, John Fritchle A.B. 1936, University of Idaho	Idaho	Marcus, Carl Marburg, Charles Austin A.B. 1940, Pennsylvania State College	N.Y. Pa.
Lund, John Freeman	Pa.	Margarris, Nicholas John Markham, Charles Buchanan A.B. 1945, Duke University	Md. N.C.

Markowitz, Irving	N.J.	McCool, Cornelius Joseph	Pa.
Marks, Solomon	Md.	McCormick, William Carlyle	W.Va.
B.S. in Ed. 1937, College of the City of New York		A.B. 1938, University of West Virginia	
Marmar, August Charles	N.Y.	McCown, William Dewell	D.C.
Mason, Charles Lance, Jr.	W.Va.	A.B. 1941, The George Washington University	
B.S. in E.E. 1947, Purdue University		McCullough, William Harrison	Md.
Mason, James Alfred	D.C.	McDonald, John Bennett	Md.
B.S. 1940, United States Coast Guard Academy		R.E.E. 1946, University of Louisville	
Martin, Edward Myers	Md.	McDermott, William Thomas	Mass.
B.S. 1944, University of Arkansas		B.S. 1945, University of New Hamp- shire	
Martin, Marshall Allen, Jr.	Va.	M.S. in Ed. 1946, Boston University	
Martin, Richard Alfred	Maine	McDill, Thomas	Ohio
Martin, Richard Alton	Ohio	A.B. 1948, Miami University	
Martin, Watt Nicholas	N.C.	McDonough, Russell Charles	Mont.
Martin, Anthony Francis	Pa.	McElroy, Charles Raymond	D.C.
A.B. 1947, The George Washington University		A.B. 1944, The George Washington University	
Martin, Stephen Walter	N.J.	McElroy, John Dale	Okla.
Mason, Adolph Louis	Va.	McElroy, Virgil Maurice	Kans.
Mason, Thomas Vincent	Ala.	A.B. 1946, LL.B. 1948, University of Kansas	
B.S. 1947, University of Alabama		McEntee, John Cornelius	Md.
Masiello, Joseph Alvin	Va.	McGee, Charles Edward	Ill.
Mason, Irma S.	N.Y.	B.S. in Educ. 1934, Northern Illinois State Teachers College	
B.S. 1940, Drexel Institute of Tech- nology		McGhee, William Morrow	D.C.
Mason, William Ernest	Ill.	A.B. 1947, The George Washington University	
Mates, Edward I.	N.Y.	McGill, George	Md.
A.B. 1940, Brooklyn College		A.B. 1945, Furman University	
Mathis, William Lowrey	Tenn.	McGrath, Robert Allen	W.Va.
B.S. in M.E. 1947, Duke University		McGrath, Edward Hugh	N.J.
Mathews, Edward Patrick, Jr.	Fla.	A.B. 1944, St. Peters College	
Mattson, Helen Irene	D.C.	LL.B. 1948, Georgetown University	
A.B. 1941, The George Washington University		McGrew, William Michael	Pa.
Matusic, Frank, Jr.	Pa.	McGurkin, James Joseph, Jr.	Va.
Maurer, George Joseph	Va.	McIntyre, Ernest Richard	D.C.
Mayberry, Lawrence Edgar	Md.	McIntyre, Fred Louis	Va.
Mayes, Basil Lamar	Calif.	A.B. 1948, The George Washington University	
Mayoral, Jose Angel	Puerto Rico	McIntyre, William G.	Mont.
B.B.A. 1939, University of Puerto Rico		McKay, Joseph Patrick	D.C.
McAlear, Frank Ed	Ark.	McKeel, Charles Baynor	N.C.
A.B. 1945, The George Washington University		McLaughlin, John Francis	Conn.
M. Wade, Willard Carlos	D.C.	A.B. 1944, Trinity College	
B.S. 1948, University of Maryland		McLaughlin, William Francis	Va.
McBurnett, Roe David, Jr.	Tenn.	A.B. 1943, Swarthmore College	
B.S. in E.E. 1944, Georgia School of Technology		McLaurin, Lillian Catherine	Miss.
McCabe, Thomas Robert	Conn.	A.B. 1947, LL.B. 1949, Vanderbilt University	
A.B. 1946, Brown University		B.S. in L.S. 1941, Peabody Institute of the City of Baltimore	
McCullum, Mary Sue Doman	Miss.	McManas, Jean	Wyo.
A.B. 1942, The George Washington University		LL.B. 1940, LL.M. 1941, National University	
McCarthy, Mary Ellen	D.C.	McMullen, Thomas Richard	D.C.
A.B. 1947, Duke University		A.B. 1946, The George Washington University	
McCarthy, Charles Dennis	D.C.	McNally, Marietta Bortz	Pa.
B.S. in M.E. 1941, Northeastern University		B.S. 1947, Temple University	
LL.B. 1948, Boston University		McNamee, Patience E.	Nev.
McCeney, Buchanan Houston	D.C.	A.B. 1944, Immaculate Heart College	
McClary, Dillon Rymer	D.C.	McNeil, George Elroy, Jr.	Md.
A.B. 1931, University of Tennessee		A.B. 1942, The George Washington University	
McClure, Rex Clark	D.C.	McPherson, James Willis	Ohio
McClure, William Pendleton	D.C.	McQueen, Robert Keith	Iowa
B.S. in Gov. 1949, University of Pennsylvania		A.B. 1944, The George Washington University	
McConnell, Mary Alice	Fla.		
A.B. 1932, Hollins College			

McRae, John Edwin	Mich.	Mitchell, Charles Bradford	D.C.
B.Ch.E. 1948, University of Detroit		Ph.B. 1938, A.M. 1939, Wesleyan College	
McTiernan, Charles Edward	N.Y.	A.M. 1938, Ph.D. 1939, Harvard University	
B.S. in E.E. 1941, University of Alabama			
Mears, John Stephen, Jr.	Ind.	Mitchell, Edward Alexander, Jr.	D.C.
Messelman, Sumner	Va.	A.B. 1941, University of Virginia	
B.S. in M.E. 1940, Worcester Polytechnic Institute		Mitchell, George Day	Md.
Melton, Caleb Wilson	N.C.	B.S. 1915, Johns Hopkins University	
Melvin, Flarell Bryan, Jr.	Va.	Modance, Walter Aaron	N.Y.
Mendelssohn, Sydney Henry	Pa.	B.S. 1918, College of the City of New York	
Menter, Martin	N.Y.	Modlin, Philip Hodgkin	N.C.
A.B. 1917, LL.B. 1939, Syracuse University		A.B. 1947, High Point College	
Mercer, Joseph Jackson, Jr.	Ga.	Moe, Albert Ferdinand	Calif.
A.B. 1948, Emory University		B.S. 1928, University of California	
Merry, Helen Virginia Lee	D.C.	Mogul, Rubin	Pa.
A.B. 1941, College of Wooster		A.B. 1948, Pennsylvania State College	
Merwin, John David	Conn.	Mohr, Paul James	N.Y.
B.S. 1943, Yale University		Montgomery, John William Myers	D.C.
Metzger, Clyde Christian	Pa.	B.S. 1940, United States Naval Academy	
B.S. 1948, Pennsylvania State College		Moody, William Augustus	Tenn.
Meyer, Lucille W.	Tex.	Moon, Joan Marie	Md.
Meyers, Leonard Bernard	Md.	A.B. 1942, University of Maryland	
Meyrowitz, Alvin Abraham	Md.	Mooney, Robert James	Conn.
A.B. 1940, Cornell University		B.E.E. 1943, Yale University	
M.B.A. 1941, New York University		Moore, Boyd Guerry	D.C.
Michaud, Lewellyn Richard	Maine	Moore, Charles Clinton, Jr.	D.C.
Mileur, Alfred Donald	Okl.	Moore, George Carlton, Jr.	Md.
Millert, William Benjamin	Mo.	A.B. 1941, University of Maryland	
Miller, George Elmer	Tenn.	Moore, Jack Martin	Md.
A.B. 1948, Texas Christian University		Moore, Jesse Myatt	Ark.
Miller, Herbert John, Jr.	Minn.	Moore, Virgil Lytle	Va.
A.B. 1948, The George Washington University		A.B. 1941, Asbury College	
Miller, Homer Ralph	Md.	Moore, Waldo Hawthorne	Va.
Miller, James Robert	Md.	Moran, Leon James	Conn.
Miller, Joseph Sheldon	N.Y.	Moran, Thomas Francis	Md.
Miller, Leland Henry	Calif.	B.Ch.E. 1930, New York University	
A.B. 1942, State College of Washington		Mordas, George	N.J.
Miller, Melvin Eugene	Pa.	Moreland, Allen Barwick	Fla.
Miller, Robert Preston	N.Y.	B.S. in B.A. 1918, University of Florida	
B.S. in M.E. 1943, Cornell University		A.M. 1943, Harvard University	
Miller, Rodney Arthur	Md.	LL.B. 1947, Georgetown University	
A.B. 1946, University of Pennsylvania		Morgan, Don Earle	Ky.
Miller, Roy Hamilton	D.C.	A.B. 1948, The George Washington University	
Millis, Hugh Lowell, Jr.	Tex.		
B.S. in E.E. 1945, Southern Methodist University		Morgan, Frank Savre	Va.
M.S. in E.E. 1947, University of Texas		A.B. 1930, University of Michigan	
Millman, Max Roland	N.Y.	Morgan, Glenn Franklin, Jr.	Va.
B.S. 1917, College of the City of New York		Morgan, John Edward	Md.
Millson, Keith Duane	Pa.	Morgan, John Hamilton	D.C.
A.B. 1948, Grove City College		Morgan, Walter Lee	Ala.
Minicus, James L.	Va.	Morgan, William Barnes	W.Va.
Ph.B. 1931, Brown University		A.B. 1942, West Virginia University	
LL.B. 1940, Columbia University		Morris, Lewis Dawson	Va.
LL.M. 1941, The George Washington University		Morris, Thomas Patrick	Mass.
Minnick, John Bradley	N.Y.	Ph.B. 1948, Providence College	
A.B. 1935, Amherst College		Morrison, William Llewelyn	N.I.
Mirandon, Joseph Wilmer	N.J.	Morrissey, Raymond	D.C.
A.B. 1947, The George Washington University		Moseley, Martin Winn	D.C.
Misey, Edward Gabriel	Wis.	Moss, Sidney J.	N.Y.
A.B. 1942, A.M. 1945, University of Wisconsin		A.B. 1948, The George Washington University	
		Mowry, Boar Iman Shaw	D.C.
		B.S. in C.E. 1940, Purdue University	
		Mull, John Clifford	N.C.
		Muller, Raymond Carl	D.C.
		Mullin, Eugene Francis, Jr.	D.C.
		A.B. 1945, Brown University	

F

Page, Helen Bell	D.C.	Peterson, Charles David	Maine
A.B.-LL.B. 1948, The George Washington University		A.B. 1948, Harvard University	
Pagter, Elizabeth Eugenia	D.C.	Petkovich, Samuel	Ohio
A.B. 1945, The George Washington University		Peto, John	N.J.
Padas, Themis Constantine	D.C.	B.S. 1947, College of the City of New York	
B.S. 1948, Washington University		Pfeiffer, Frederick Thompson	D.C.
Palmer, Arthur Andrew, Jr.	Va.	A.B. 1947, University of North Carolina	
B.S. 1948, University of Maryland		Pfund, Charles Edward	Md.
Palmer, William Colton	Md.	B.S. in E.E. 1941, Iowa State College of Agriculture and Mechanic Arts	
A.B. 1948, The George Washington University		Phelps, Allen Warner	D.C.
Palmes, Lowell Richard	D.C.	Pherson, John Randolph	D.C.
Pandiscio, Nicholas Anthony	Mass.	A.B. 1948, The George Washington University	
B.S. in Ch.E. 1947, Northeastern University		Phillips, Gordon Allison	D.C.
Parker, O. B.	D.C.	Ph. B. 1947, University of Chicago	
Parker, Ralph Woodford	Ky.	Phlippt, Frederick Charles	D.C.
A.B. 1949, Georgetown College		B.Ch.E. 1947, University of Maryland	
Parks, James Theodore	Okl.	Pickens, John Kenneth	N.J.
Parks, Thomas Alvin	D.C.	LL.B. 1943, Harvard University	
B.S. 1948, Georgia School of Technology		Pickering, Leonard Leroy	Okl.
Parriah, John Poindexter	Va.	Pierce, Edward Roland	D.C.
Paschall, John Wesley, Jr.	Ark.	B.S. 1948, Purdue University	
Pastoriza, Ralph Babcock	N.Y.	Pierce, James Baker	Mich.
B.S. 1944, California Institute of Technology		B.S. in E.E. 1943, University of Michigan	
Pastrick, George Andrew	D.C.	Pineau, Roger	Mich.
Patch, Robert John	D.C.	A.B. 1942, University of Michigan	
B.S. 1948, University of Michigan		Plyer, Alfred Hutchinson	Tex.
Patterson, Ernest Harold	Pa.	B.S. in M.E. 1948, Rice Institute	
B.S. 1945, Temple University		Pollack, Leonard	Pa.
Patterson, Ila Lucille	D.C.	Pope, Harold Eugene	Ky.
A.B. 1936, Converse College		B.S. in M.E. 1947, University of Kentucky	
Patton, Arthur Gordon	Va.	Porcel, Fernando Osraldo	D.C.
A.B. 1946, Yale University		Postman, Martin Samuel	Va.
Patty, Clarence Ralph, Jr.	Va.	B.S. in E.E. 1946, Virginia Polytechnic Institute	
B.S. in E.E. 1940, University of Tennessee		Poston, Met Ray	Tenn.
Paulich, Eugene Bernard	Pa.	B.S. 1943, University of Chattanooga	
Paulson, Norman Clarence	S.D.	Poston, Raymond Lee	Va.
Payne, Francis Xavier	Md.	Potter, Ralph E.	D.C.
Payne, Ralph Lucian	Va.	B.M.E. 1945, The George Washington University	
Pear, Leon	Md.	Powell, John Frederick	D.C.
B.S. 1947, University of Maryland		Power, Andrew Paul	N.Y.
Pearson, Beverly Stocking	D.C.	A.B. 1947, The George Washington University	
A.B. 1940, Vassar College		Poznak, Morton	N.J.
Peisner, Arthur A.	D.C.	Pravel, Bernard Roe	Tex.
Pelham, David Elliot	D.C.	B.S. in Ch.E. 1947, Rice Institute	
B.S. 1931, Tufts College		Prendergast, James Francis	Pa.
Pellerzi, Leo Maurice	D.C.	A.B. 1948, Lafayette College	
Pendergast, Charles William	W.Va.	Presslar, Avis McKelvan	Tex.
Pendergrass, John Mullard	Va.	A.B. 1949, Baylor University	
A.B. 1945, Kalamazoo College		Preslar, Stephen Franklin	Tex.
M.P.A. 1946, Wayne University		Preston, Walter Harlan	D.C.
Pennefeather, Joseph E.	N.Y.	Price, Milo V.	Nev.
Pennyan, Lola	Miss.	Price, Robert Nelson	D.C.
Perez, Horace Hugo	Guatemala	A.B. 1948, Haverford College	
B.S. 1946, Louisiana State University		Procaccino, Joseph Anthony	N.Y.
Perez-Colón, José Enrique	Cuba	A.B. 1943, College of the City of New York	
Perron, George Peter	D.C.	Psaki, John Nicholas	Va.
A.B. 1940, The George Washington University		Ph. B. Gerard Richard	N.Y.
Perry, Elena Victoria	N.Y.	B.S. 1944, Virginia Polytechnic Institute	
A.B. 1948, Hunter College		Pulfrey, Robert Earl	Va.
Perry, Robert Charles	Miss.	B.S. 1937, Jamestown College	
Petersen, Stanley Wilhelm	N.Y.		
A.B. 1941, The George Washington University			

Purdy, William Frederick, Jr. B.M.E. 1937, Stevens Institute of Technology	N.Y.	Reichers, Mary	Va. D.C.
Putterman, Felix Maurice	Va.	Reid, James Sharp A.B. 1937, Cornell University	Ala. N.Y.
Q		Reid, William Grant Reiffin, Martin Gardner B.M.E. 1945, College of the City of New York	Wash.
Quarforth, Carl Donald B.Ch.E. 1946, University of Virginia	S.D.	Reilly, George Kenneth A.B. 1947, The George Washington University	N.J. D.C.
Queen, Francis Vernon A.B. 1941, Berea College	Ky.	Reitman, Seymour George	N.J. D.C.
Queisser, Richard Curtis B.S. in E.E. 1937, New York University	Va.	Rengel, Richard B.E.E. 1946, University of Minnesota	D.C. Md.
Quisenberry, William Otis B.S. 1943, Virginia Polytechnic In- stitute	Va.	Reque, Robert Russell Reanick, Alleck Albert	Va. N.Y.
Quigg, Calvin Carlyle A.B. 1948, University of Colorado	Va.	Reynolds, Chester Forrest Reynolds, Gary Stewart Reynolds, William Lavern Rhine, Mary Elizabeth Rhodes, Robert Garrett	Kans. Pa. Pa.
Quinn, Joseph Patrick B.S. 1940, University of Utah	D.C.	B.S. 1947, University of Pittsburgh M.S. 1948, University of Pennsylvania	
R		Rhyne, Bruce Wilson	Va.
Racoon, Stanley Arnold	D.C.	Rich, Donald Jenkins	Va. Miss.
Raffel, Everett Morton A.B. 1943, Brooklyn College L.L.B. 1948, The George Washington University	N.Y.	Rich, Francis Earl B.S. 1941, United States Naval Academy	
Ragsdale, Gerald Hamilton A.B. 1938, Montana State University	Mont.	Richards, John Imbrie, Jr. Richards, William Robert Richardson, Thomas Totten Richmond, Lionel	Md. D.C. Va. Pa.
Raine, David Latimer B.S. 1948, University of Maryland	Md.	Richwine, Francis Kost B.S. 1941, Pennsylvania State College	Mich.
Ralph, Dallas John B.S. in E.E. 1948, Michigan College of Mining and Technology	Mich.	Richards, Herbert Betz Rickey, Isabelle Mary A.B. 1947, The George Washington University	Tex.
Ralston, Lawrence Parker A.B. 1939, Princeton University	Conn.	Ridpath, Robert Vance Ries, Carl Gilbert B.S. 1947, University of Wyoming	Ind. Wyo.
Rambo, Reginald Rodney B.S. 1933, M.S. 1934, University of Arizona	Pa.	Rifkind, Bernard David B.S. 1941, Temple University	Conn.
M.D. 1938, Harvard University		Riggs, Bradner Charles Riley, Jeremiah Thomas Rissler, Robert Lorain A.B. 1947, Shepherd College	Va. Mont. W.Va.
Rand, Alice Marion A.B. 1935, Wellesley College	Conn.	Rizak, Jacqueline Suzanne A.B. 1946, Trinity College	D.C.
Randolph, Edgar Reed A.B. 1946, Yale University	Mass.	Robbins, Charles Earl Robbins, Glenn Kingsland B.S. in Ch.E. 1947, Washington University	La. Mo.
Raptes, M. Ted B.S. 1945, Case Institute of Technology	Ohio	Roberts, Austin Leonard A.B. 1941, College of William and Mary L.L.B. 1948, The George Washington University	N.J.
Rath, Robert Karl Rasloff, William Richard Ratner, Max	Ohio Ky. D.C.	Roberts, Jennings Nicholas A.B. 1949, Morris Harvey College L.L.B. 1944, L.L.M. 1945, Georgetown University	Va.
Rea, James Magruder A.B. 1941, University of Maryland	Md.	Roberts, John Summerfield, Jr. B.S. 1941, University of Virginia	D.C.
Reagan, James Edwin Reback, William	D.C. D.C.	Roberts, Perry Leonard B.S. 1938, Oklahoma Agricultural and Mechanical College	Va.
Recktenwald, Constance Eleanor A.B. 1945, University of Pittsburgh Recktenwald, William Elmer B.S. 1948, Purdue University	Pa. N.Y.	Roberts, Richard Mansfield L.L.B. 1948, The George Washington University	D.C.
Redd, Lavinia Lindsay A.B. 1945, Randolph-Macon College	Va.		
Reed, Hallie Mae A.B. 1937, The George Washington University	Va.		
Reed, Richard Carl A.B. 1940, J.D. 1941, State University of Iowa	Iowa		
Reed, William Smith B.S. 1938, University of Kentucky M.S. 1940, University of Wisconsin	Ky.		
Reeder, Ronald Ronson A.B. 1945, Shepherd College A.M. 1947, The George Washington University	W.Va.		

Robertson, Roger Earl	Md.	Roylance, Donald Carvar	Md.
B.S. 1942, M.S. 1942, Massachusetts Institute of Technology		Russell, Denver Lee	D.C.
Robinson, Alfred Arnold	N.Y.	A.B. 1947, Mount Union College	
B.S. & M.F. 1932, Agricultural and Mechanical College of Texas		Russell, William David	Mo.
Robinson, Thomas Adams	D.C.	A.B.-LL.B. 1938, University of Missouri	
Robinson, James Bond, Jr.	D.C.	Ruszkawicz, Joseph Edward	Pa.
A.B. 1942, Brown University		B.S. 1948, University of Pittsburgh	
J.D. 1948, The George Washington University		Rutledge, Jean Ann	D.C.
Rosenbeck, Frederick Ludwig	D.C.	A.B. 1947, Indiana University	
A.B. 1941, A.M. 1941, University of Nebraska		Rutledge, John	Va.
Rubens, James Edwin	Pa.	Ryan, Charles Patrick	Pa.
Rubens, Philip Rex	D.C.	Ryan, John Thomas	W.Va.
B.S. 1939, M.S. 1940, University of Utah		A.B. 1948, West Virginia University	
Ph.D. 1947, American University		Ryan, John Wynne	N.Y.
Royal, William Walter		A.B. 1942, Dartmouth College	
Rogers, Harold John	Md.	Ryan, Mary Dolores	Md.
A.B. 1947, University of Scranton		A.B. 1947, The George Washington University	
Roger, Nathaniel Hyman	D.C.	Ryan, Robert Edwin	Pa.
A.B. 1934, A.M. 1935, New York University		Rymer, Thomas Arrington	D.C.
Rohrer, Carl Pfeffer	Va.	B.C.E. 1948, Cornell University	
A.B. 1931, LL.B. 1931, The George Washington University		S	
Rohrer, William James	D.C.	Saccardi, Clarence Richard	D.C.
Romero, Mario Svedra	Tex.	Sadlowsky, Gersten	N.Y.
A.B. 1939, National University of Mexico		B.M.E. 1947, College of the City of New York	
Romero, Theodore Robert	Md.	Sadur, Marvin Phillip	D.C.
Rummel, Wilfred H.	D.C.	A.B. 1947, The George Washington University	
B.S. 1947, North Dakota State School of Science		Saffitz, Abraham Alan	N.Y.
Rood, George Henry	Fla.	A.B. 1946, Cornell University	
A.B. 1942, University of Florida		St. John, Charles Richard	Ohio
Rose, Alan Conrad	N.J.	A.B. 1949, University of Akron	
B.S. 1944, Massachusetts Institute of Technology		Sakai, Hiroshi	Hawaii
Rose, Charles Jules	W.Va.	Saunders, David Eugene	D.C.
A.B. 1942, The George Washington University		Salter, Elliot Arnold	R.I.
Rose, Donald Lewis	Pa.	B.S. in M.E. 1946, Brown University	
B.S. in Ch.E. 1947, Pennsylvania State College		Salzman, Max Herbert	N.Y.
Rosenberg, Seymour Morton	N.Y.	Salzman, Mary Ann	Mo.
B.I.E. 1944, College of the City of New York		A.B. 1947, University of Missouri	
Rosenberg, William Theodore	Ohio	Samowitz, Charles Sidney	N.Y.
Rosenthal, Alan Henry	D.C.	B.M.E. 1948, College of the City of New York	
Rosenz, Donald Carl	D.C.	Samuels, Joseph Paul	W.Va.
Ross, Harry, Jr.	Md.	B.S. 1946, West Virginia University	
B.S. 1946, University of Notre Dame		Sanchez, Ben P.	N.M.
Ross, Samuel B.	D.C.	Sander, Dora	Md.
A.B. 1921, Pitt University		A.B. 1942, Radcliffe College	
A.M. 1923, Ph.D. 1931, Columbia University		Sanders, Frank Powell	N.C.
Ross, Henry	R.I.	Sanders, John Albert	Pa.
Rockin, Irving Jacob	N.Y.	A.B. 1948, The George Washington University	
B.S. in M.E. 1946, Virginia Polytechnic Institute		Sanders, Lowell Lawrence	Ind.
Roubiceaux, Ramon Arthur	S.D.	B.S. 1945, Indiana University	
Roumel, Theodore C.	D.C.	Savage, Ishan	D.C.
A.B. 1944, The George Washington University		Savage, Robert Frank	D.C.
Roussar, Edward Everett	Okla.	A.B. 1943, Whitworth College	
Rowan, Eugene Francis	N.Y.	Savage, William Alvin	Calif.
B.S. 1945, University of Virginia		A.B. 1937, Stanford University	
Rowe, Willis Case	D.C.	Scarborough, James K.	Miss.
Rowitz, Bernard	N.J.	Seariot, Angelo John	Va.
A.B. 1948, Rutgers University		A.B. 1948, The George Washington University	
		Scharfer, William John	D.C.
		A.B. 1949, University of Pittsburgh	
		Schafer, Frederick	D.C.
		B.S. 1925, The George Washington University	
		LL.B. 1928, Georgetown University	
		Schappert, Joseph Matthew	N.Y.
		A.B. 1948, Queens College	

Schenck, Joseph Samuel	N.C.	Sherman, Benjamin	N.Y.
Scherer, Solomon	N.Y.	A.B. 1948, New York University	Va.
A.B. 1949, The George Washington University		Sherman, Fred	
Schmertz, Robert Colgan, Jr.	Pa.	A.B. 1934, University of Oklahoma	N.J.
B.S. in E.E. 1943, Princeton University		Shesser, Ira	Ohio
Schneberg, Rosalyn	D.C.	Shine, Howard Lawrence	
Schneider, Edwin Roy	Mich.	A.B. 1940, Bowling Green State University	Ga.
A.B. 1948, University of Michigan		Shingler, Julian James	
Schneider, Homer James	Va.	B.S. 1930, United States Coast Guard Academy	Tenn.
B.S. 1943, University of Wisconsin		Shingler, William Gendron, Jr.	
Schneider, Walter Henry	N.J.	A.B. 1946, University of Missouri	D.C.
B.S. 1943, Virginia Polytechnic Institute		Shipley, George Edward	Ala.
Scholtz, Edward Karl	Md.	Shoemaker, William Robert	Ind.
Schonberger, Eugene	Va.	Shookman, Loyd Allen	Ohio
Schoessler, John D.	D.C.	Shore, Jacob	
B.S. 1930, Gettysburg College		B.S. in M.E. 1946, Illinois Institute of Technology	
Schultz, Herman D.	N.Y.	Shotwell, Clark Harding	D.C.
Schultz, John Hooker	D.C.	Shoup, Wilson Elliott	Va.
Schuppin, Eric Adolph	D.C.	A.B. 1937, Indiana University	
Schwartz, Dorothy Louise	Ohio	Shryock, Raymond DeSouville	Va.
A.B. 1947, The George Washington University		A.B. 1926, LL.B. 1929, University of Pennsylvania	
Scott, David Alan	N.J.	Shryock, Richard Fuller	Md.
A.B. 1938, Princeton University		A.B. 1930, University of North Carolina	
A.M. 1946, Columbia University	N.Y.	Shugart, Elizabeth Wise	W.Va.
Seaman, Leslie Thomas	Pa.	A.B. 1947, Ohio State University	
Sebastiani, Angelo James		Shure, Gilbert Bernard	Va.
B.S. 1947, University of Scranton	Pa.	B.S. 1934, Virginia Polytechnic Institute	
Sedmak, Michael Edward		Shutkin, Joseph Jerome	Wis.
A.B. 1949, Muhlenberg College	Wash.	A.B. 1947, University of Wisconsin	
Seed, Richard Warren		Sidwell, James Dudley	D.C.
B.S. 1944, California Institute of Technology	D.C.	Siegel, Abraham	Calif.
Seidel, Arthur Harris		B.S. 1940, College of the City of New York	
B.S. 1943, College of the City of New York		Silverman, Aaron	D.C.
A.M. 1943, University of Michigan	D.C.	A.B. 1948, The George Washington University	
Semmes, John Gibson	D.C.	Simma, Charles Francis	Md.
Sfarnas, James George	Ohio	A.B. 1941, University of Maryland	
Shadowen, Cyril Eugene	W.Va.	LL.B. 1948, Georgetown University	D.C.
Shaffer, Earl Edward	N.Y.	Simon, Alfred Philip	
Shampain, Leon	N.Y.	B.S. 1947, Rhode Island State College	D.C.
Shapiro, David	D.C.	Simpson, Kenneth Walter, Jr.	
Shapiro, Nelson Hirsh		B.S. 1943, University of Maryland	Miss.
B.E.E. 1948, Johns Hopkins University	Pa.	Sims, Andrew Jackson	Ark.
Sharkey, James Francis	Mass.	Sims, Harry Gay	
Sharp, Daniel DeWitt		A.B. 1916, LL.B. 1938, University of Arkansas	
B.S. in E.E. 1939, Northeastern University	Kans.	Siskind, Eliot Irvin	Md.
Sharratt, George		A.B. 1948, Johns Hopkins University	
LL.B. 1936, University of Missouri	Nev.	Sitler, Willard Stanley	Va.
Sheaff, H. Joan		B.S. 1938, Pennsylvania State College	N.Y.
A.B. 1948, Skidmore College	Md.	Skalak, Rose	
Shearin, Plummer Mustian		A.B. 1940, Hunter College	
B.S. 1936, Wake Forest College	N.J.	B.S. 1940, Columbia University	Cuba
Sheeran, James Joseph	D.C.	Skelly, George Martin	
Sheeskin, Jacob	Mass.	Skillman, Douglas Benjamin	Va.
Sheff, Irving		B.S. 1942, Pennsylvania State College	Kans.
A.B. 1948, The George Washington University		Skinner, Ernest Brown	
Sherry, Laurence Polkinhorn	Md.	LL.B. 1932, Washburn Municipal University of Topeka	
A.B. 1935, LL.B. 1936, A.M. 1947, The George Washington University		Skinner, Henry Ross	Wyo.
LL.M. 1937, Harvard University	Mass.	Slevin, William Victor	Iowa
Sheridan, Philip Henry		Smith, Charles Edwin	Va.
B.S. in E.E. 1944, Worcester Polytechnic Institute	Pa.	B.S. 1921, United States Naval Academy	
Sheridan, Philip Regis		Smith, Chester Horace	Nev.

Smith, Dorr Newell A.B. 1947, The George Washington University	Maine	Spivak, Richard Walter B.S. 1942, University of Pennsylvania	Pa.
Smith, Dudley Burcham B.S. in Eng. 1945, California School of Technology	Oreg.	Spivey, Thomas Denmith A.B. 1940, University of North Carolina	Va.
Smith, Edwin Stratford LL.B. 1944, The George Washington University	Utah	Sponsaugh, George Isaac A.B. 1940, Shepherd College	D.C.
Smith, George Francis Smith, Hugh Edward B.C.E. 1947, Rensselaer Polytechnic Institute	D.C. N.Y.	Sroka, Edward Andrew B.S. 1941, Purdue University	Va.
Smith, Jack Albert Smith, Jesse Bond A.B. 1942, University of Virginia	N.M. Md.	Stamatiou, Nicholas Constantine LL.B. 1939, University of Athens	D.C.
Smith, Lawrence Sinclair A.B. 1949, University of Florida	Fla.	Stanley, Earl R. B.S. in Ed. 1943, Kent State University	Ohio
Smith, Leon Kushner A.B. 1947, The George Washington University	D.C.	Staring, Ralphine Ronald A.B. 1937, Oregon State College	Oreg.
Smith, Richard Robert Smith, Thomas Warner A.B. 1948, The George Washington University	Va. D.C.	Stark, John Regan A.B. 1948, Cornell University	Va.
Smith, Thurman B.S. 1949, East Texas State College	Tex.	M.P.A. 1946, New York University	
Smith, Wallace Morrell Smolen, Joseph Sidney A.B. 1946, University of California at Los Angeles	Va. Calif.	Stearman, Lewis Tilden B.M.E. 1946, Syracuse University	D.C.
Snyder, Charles Thomas A.B. 1942, University of Michigan	Mich.	Steenerson, Palmer Seymore Stell, Edward Stein, Charles Edward B.S. 1944, Case Institute of Technology	D.C. Va. N.J.
Soll, Walter Wood, Jr. A.B. 1939, DePauw University	Ill.	Stein, Mervin B.S. 1947, B.C.E. 1948, Rensselaer Polytechnic Institute	Pa.
Solomon, Alvin Solomon, Lewis Jay Soltau, William Donald, Jr. B.M.E. 1948, Rensselaer Polytechnic Institute	Md. N.Y. Ohio	Stein, Murray A.B. 1947, The George Washington University	Va.
Somers, George Britton A.B. 1940, University of Richmond	Va.	Steinbauer, Walter Henry, Jr. B.S. 1947, Emory and Henry College	D.C.
Soucek, Frank James B.E.E. 1948, The George Washington University	Va.	Steinberger, Hugh Marion B.S. in Comm. 1941, University of Virginia	D.C.
Souther, Arthur Fuller Southernland, Elisabeth Lamkin A.B. 1940, University of Georgia	Va. Ga.	Steiner, Archie Kenneth A.B. 1935, Lincoln Memorial University	Tenn.
Southmavo, LeRoy, Jr. Southwell, Paul M. A.B. 1940, The George Washington University	Mont. Va.	B.S. 1916, East Tennessee State Teachers College M.S. 1940, University of Tennessee	
Sowder, Richard Dunham A.B. 1944, University of Kansas	D.C.	Steiner, Paul Llewyn Steinert, Leif Maene Emil Steinmeyer, Robert Jay B.S. in E.E. 1943, University of Nebraska	D.C. D.C. Nebr.
Spain, Norman Noah A.B. 1946, Brooklyn College	N.Y.	Stephens, John, Jr. A.B. 1946, The George Washington University	Fla.
Spain, George Kripler Sparks, Edward D. B.S. in E.E. 1946, University of Oklahoma	D.C. Colo.	Stephens, William Theodore Steinman, Milton Stenson, Richard Stetson, Rufus Edwin, Jr. A.B. 1947, Bowdoin College	Md. N.Y. Md. Maine
Spannberg, John Henry Spector, Eugene Paul A.B. 1947, The George Washington University	D.C. Mass.	Stevan, Alexander Louis Stevens, Donald Junior A.B. 1947, Mullenberg College	Pa. Ohio
Spector, George B.C.E. 1942, M.C.E. 1947, Polytechnic Institute of Brooklyn	N.Y.	Stevens, Wynne Allan, Jr. A.B. 1939, College of William and Mary	Md.
Spencer, Charles Ellis A.B. 1948, Clark University	Mass.	Stewart, Clark Berry B.M.E. 1948, Clemson College	Md.
Spitz, Herbert A.B. 1947, Brooklyn College	N.Y.	Stewart, David Alfred, Jr. Stewart, Francis John A.B. 1948, West Virginia University	Miss. Pa.
		Stewart, Rodney Ward A.B. 1911, Carleton College A.M. 1914, University of Chicago Ph.D. 1938, Harvard University	D.C.

Stickney, Bernard B.S. 1938, College of the City of New York	N.Y.	Sweitzer, Henry Becker B.S. 1941, United States Naval Academy	Pa.
Stifter, William Warren, Jr. A.B. 1939, Amherst College	Md.	Sylvester, Eugene Paul	N.J.
Stiles, Meredith N., Jr. A.B. 1946, Amherst College	N.J.	T	
Stilson, Lewis Francis	D.C.	Taaffe, Jesse Nel A.B. 1941, North Texas State Teachers College	Tex.
Stitelman, Joseph B.S. in E.E. 1934, Cooper Union	D.C.	Tafoya, Ben	Md.
Stock, William Stark B.S. 1937, Mount St. Mary's College	Va.	Tait, Reid Clifford	D.C.
M.B.A. 1939, University of Pennsylvania		Tanner, Thomas Louis, Jr.	Va.
Stockell, Charles White A.B. 1948, Vanderbilt University	D.C.	Tansing, Richard Moldo	Oreg.
Stoll, Ervin Wightman B.S. in B.A. 1947, LL.B. 1948, University of South Carolina	S.C.	B.S. 1948, University of Oregon	D.C.
Stonebraker, Dan A.B. 1947, University of Rochester	N.Y.	Tarrant, William Theodore, Jr. A.B. 1938, Stanford University	D.C.
Strauss, William Sigfrid A.B. 1932, Ph.D. 1933, University of Wurzburg, Germany	Va.	A.M. 1939, Tufts College	
Streb, Samuel Stephen Streinz, Clare Julia	D.C.	Tashjian, Lee C.	D.C.
Strickler, Helen Louise A.B. 1947, University of New Mexico	Okla.	Taussig, Joseph Knefler, Jr. B.S. 1941, United States Naval Academy	R.I.
Strong, Ralph Lavell	D.C.	Tavenney, Frank Brennan	Va.
Strother, Calvin Arnold A.B. 1947, Harvard University	Okla.	Taylor, Andrew Eustace B.S. in M.E. 1947, Tufts College	Md.
Stuart, Jasper Edwin	Pa.	Taylor, Dyer Justice	D.C.
Stultz, Norman Frederick	Okla.	Taylor, Edward Rathbon A.B. 1947, Lafayette College	D.C.
Stultz, Travers David B.S. 1948, St. Louis University	D.C.	Taylor, Harry Earl A.B. 1948, The George Washington University	Hawaii
Sudnik, Louis Frederick B.S. 1941, United States Coast Guard Academy	Mass.	Taylor, Thomas Hart B.S. 1940, United States Naval Academy	Ohio
Sukalo, Charles B.S. in Ch.E. 1944, Newark College of Engineering	Md.	Tebeau, John Peter	R.I.
Sullivan, Arthur Victor	Mass.	Techner, Martin Richard	Va.
Sullivan, Thomas Vincent A.B. 1942, New York University	N.J.	Teltser, Harold Robert	N.J.
Summer, Leonard B.S. 1933, M.S. 1938, College of the City of New York	N.Y.	Tennant, William Samuel, Jr. A.B. 1943, The Citadel	S.C.
Summersell, George Grayson B.S. 1948, University of Alabama	D.C.	Tenny, Morgan Ledyard A.B. 1947, The University of Maryland	Md.
Sumney, Ara Long LL.B. 1940, University of Richmond	N.Y.	Terkoski, Sylvester Adolf	Pa.
A.B. 1946, West Virginia University	Va.	Terry, George Mulford A.B. 1947, The George Washington University	Md.
Sures, Charles Stanley A.B. 1947, The George Washington University	Ala.	Thackston, Carl Richard A.B. 1948, Furman University	S.C.
Sussholz, Leonard B. A.B. 1948, The George Washington University	D.C.	Theobald, Frederick H. Theophilus, George John	Ky. D.C.
Sutherland, Henry Clifton B.S. 1942, Virginia Military Institute	D.C.	Therault, Rene John	Va.
Swan, Robert E. B.S. 1917, College of Puget Sound LL.B. 1948, The George Washington University	D.C.	Thomas, Earl Arunah Thomas, Frane Vesta	D.C. Fla.
Swartz, Christian LeFevre B.S. in Econ. 1947, University of Pennsylvania	D.C.	A.B. 1943, The George Washington University	
LL.B. 1946, Temple University	N.Y.	Thomas, Henry Wolcott, Jr. A.B. 1945, Amherst College	Va.
Swazze, Roy Albert	Va.	Thomas, James Louis, Jr.	Md.
Sweeney, James Charles, Jr. B.S. 1948, University of Denver	Va.	Thomas, Laura Eleanor A.B. 1949, The George Washington University	D.C.
		Thomas, Ralph Leslie B.E.E. 1947, University of Louisville	Fla.
		Thomas, William Henry	D.C.
		Thompson, Lucius Fred	Ga.
		Thompson, Thomas Carlton	D.C.
		B.S. 1948, University of Pennsylvania	
		Thorniley, Robert Miller	D.C.
		Thornton, Percy	N.C.
		Threagill, William James	Miss.
		A.B. 1947, University of Mississippi	
		Thurmond, Cornelius Brooks, Jr.	Ga.

Tibbott, David Winship	Va.	Vance, William Frank	Ala.
B.M.E. 1945, University of Virginia		A.B. 1941, Birmingham-Southern	
Tillman, Murray	N.Y.	College	
A.B. 1944, Brooklyn College		Vandermause, Orville Joseph	D.C.
Tillmann, Alfred Albert	N.Y.	B.S. in Ed. 1941, State Teachers	
B.S. 1941, New York University		College, White Water, Wis.	
Tillson, Paul Lambert	Va.	Van Deusen, John	D.C.
B.S. 1918, M.S. 1919, Massachusetts		A.B. 1948, Brown University	
Institute of Technology		Van Meter, Ellsworth Evans	Va.
Timbie, Donald Nute	Md.	A.B. 1932, Indiana State Teachers	
B.S. in E.E. 1910, Massachusetts		College	
Institute of Technology		Van Meter, William Garrett	Va.
Tobin, Kenneth Edmund, Jr.	Md.	Van Ostlund, Dean Baity	N.Y.
B.S. 1947, Georgetown University		B.Ch.E. 1948, Rensselaer Polytechnic	
Tombaugh, Paul Leslie	Ill.	Institute	
B.M.E. 1946, Georgia School of		Varoutsos, Paul George	Va.
Technology		Vaughter, Swift	Ga.
Townsend, Robert Arnold	Mass.	A.B. 1928, Mercer University	
B.S. 1913, Harvard University		Villalon, Edward Gonzales	D.C.
Trabbi, Ralph	N.Y.	Villedaise, Jean Andre	D.C.
A.B. 1947, The George Washington		Doctor of Laws 1946, University of	
University		Paris	
Travassani, Vincent D.	Va.	Vincierra, John Vincent	Ohio
Trenaman, John Irving	Va.	A.B. 1949, University of Akron	
A.B. 1941, University of Illinois		Vitale, Michael Joseph	N.J.
Trent, Curtis Ballard, Jr.	W.Va.	Vogel, Alphonse	D.C.
A.B. 1941, Marshall College		I.L.B. 1911, University of Bucharest	
Trentacosta, Rosario Charles	N.Y.	Vorder Bruegge, Howard Joseph	Tenn.
Treumann, Walter	Mo.		
Triviz, Edward Ernest	N.M.	W	
A.B. 1942, New Mexico College of		Wacker, Stella Czuba	Md.
Agriculture and Mechanic Arts		A.B. 1917, Ohio State University	
Troiano, Frank Anthony	N.Y.	Wagman, Theodore David	Mass.
A.B. 1949, The George Washington		A.B. 1910, A.M. 1940, Boston	
University		University	
Truheart, William Clyde	Va.	Waldron, Richard Vernell	Ill.
B.S. 1910, A.M. 1941, University of		B.S. in Ed. 1918, Southern Illinois	
Virginia		Normal University	
Tuberty, John Patrick	Pa.	Walker, Dale B.	N.M.
A.B. 1946, Lehigh University		Walker, John Cusworth III	D.C.
Tuchmann, Norman	Conn.	A.B. 1948, Duke University	
A.B. 1948, The George Washington		Walker, Paul Howard	Miss.
University		I.L.B. 1948, The George Washington	
Tucker, Lyman Ray	Tex.	University	
Tucker, Simon	N.Y.	Walkinslaw, Walter	Wash.
B.S. 1940, College of the City of		A.B. 1910, University of Washington	
New York		Walsh, James Franklin	D.C.
M.P.A. 1941, New York University		B.S. 1946, University of Illinois	
Tully, John Montgomery	W.Va.	Wambach, Richard Fidelas	N.D.
Turkal, Donald Lloyd	Md.	A.B. 1948, Duke University	
Turner, Clarence William, Jr.	D.C.	Wang, Hsueh-jeh	China
B.S. in M.E. 1947, Purdue University		A.B. 1944, I.L.B. 1946, The George	
Twining, James Edward, Jr.	N.J.	Washington University	
A.B. 1941, Union College		Warmack, William Davies	D.C.
M.S. 1941, Syracuse University		Warner, Brannard Henry III	Md.
Tzarnes, Christ	D.C.	B.E.E. 1946, Yale University	
A.B. 1947, The George Washington		Warner, Joan Carol	D.C.
University		B.S. 1943, Duquesne University	
U		Warner, Philip Lambert	Va.
Umstead, Lyman John	Pa.	A.B. 1948, American University	
A.B. 1948, The George Washington		Washington, Fielding Lewis	Va.
University		Washington, James William	N.J.
Ussery, Harry McRae	N.C.	A.B. 1946, Lafayette College	
V		Watanabe, Kazuo	Hawaii
Vaccaro, Camillo Jimmie	D.C.	A.B. 1948, University of Hawaii	
Vache, Barbara Marie	Ohio	Watkins, William Henry	D.C.
Vail, Benjamin Anthony	W.Va.	B.S. 1940, University of Maryland	
A.B. 1940, West Liberty State College		Watson, Charles Roger, Jr.	N.J.
Vance, John Thomas	D.C.	A.B. 1918, Princeton University	
A.B. 1947, Montana State University		Watson, James Edwin	W.Va.
		A.B. 1941, Colgate University	
		Watt, William Alexander	Va.

Watts, Byron C. A.B. 1949, The George Washington University	D.C.	White, Ruth Baskin A.B. 1943, University of Pennsylvania	Nebr.
Wayland, Clarence Raymond	D.C.	White, Thomas Arthur B.S. 1943, West Virginia University	Va.
Weaver, Douglas Price A.B. 1948, The George Washington University	Iowa	Whitesel, James Warren B.S. 1941, Wake Forest College	D.C.
Weaver, Gilbert Earl A.B. 1947, Lenoir-Rhyne College	D.C.	J.D. 1948, The George Washington University	
Weaver, Paul Elwood B.S. 1948, United States Military Academy	D.C.	Whitmore, Charles Warren Whitmore, Daniel Norman Whitmore, Sidney Roston	Va. Nev. Va.
Webb, Henry Gorham B.S. 1948, University of North Carolina	N.C.	Whitney, George Ward B.E.E. 1940, Rensselaer Polytechnic Institute	N.Y.
Webb, Jack Bassett A.B. 1948, University of Kansas	Maine	Whittenburg, John Vernon B.S. in Ch.E. 1948, Rice Institute	Tex.
Webb, Joseph Coates A.B. 1948, The George Washington University	D.C.	Whitwell, Sanford MacCallum B.S. 1944, Cornell University	Pa.
Webb, Richard William A.B. 1947, The George Washington University	Conn.	Whitworth, Lewis Beaman Welman, Charles Louis Wier, Richard Austin B.P.A. 1944, Texas Christian University	Md. D.C. Tex.
Weber, Edward Robert B.S. 1946, Wisconsin State Teachers College, La Crosse B.B.A. 1948, University of Wisconsin	D.C.	Wild, Paul Joseph A.B. 1945, Drake University	Iowa
Webster, Edward B.S. 1942, University of Maryland	D.C.	Wimpen, Fred Donald B.S. in E.E. 1947, Stanford University	D.C.
Webster, John Mark B.S. 1942, University of Minnesota LL.B. 1947, The George Washington University	D.C.	Wilkins, Don Frank Wilkins, Elizabeth Ann Wilkinson, Richard Bruce B.S. 1937, Newark College of Engineering	Utah D.C. Md.
Weiss, Alci Gardner B.S. 1948, The George Washington University	Md.	Willard, Walter Gordon Willenbacher, Dorothy Elizabeth A.B. 1946, Swarthmore College	D.C. Md.
Weiss, Sidney B.B.A. 1942, College of the City of New York	D.C.	Willet, John Raymond A.B. 1948, The George Washington University	Maine
Weissman, Milton B.C.E. 1930, New York University	N.Y.	Williams, John Charles Williams, John Marshall B.S. in Ed. 1936, East Central State College	N.D. Wis.
Wendt, Carl Morten A.B. 1937, A.M. 1939, University of South Dakota	Iowa	Williams, Leonard John Williams, Richard Guy A.B. 1944, Yale University	Md. Va.
Wendt, Lucile Bard A.P. 1942, University of South Dakota	S.D.	Williamson, Daniel Lester, Jr. Williamson, John George A.B. 1948, The George Washington University	Va. Tenn.
Wesner, William Fred West, Luther Charles A.B. 1948, Birmingham-Southern College	D.C. Ala.	Willis, John William A.B. 1934, University of California at Los Angeles LL.B. 1937, University of Southern California	Va.
Westall, Ted B. B.S. 1948, University of Oklahoma	Tex.	Wilson, Bobby Lloyd Wilson, Charles LeRoy, Jr. A.B. 1948, Davis and Elkins College	Tex. W.Va.
Weston, Glen Earl B.S. 1943, University of Maryland	Md.	Wilson, George Allison Wilson, John Samuel A.B. 1946, LL.B. 1950, Fordham University	Iowa N.Y.
Wetherbee, Fairland Henry Wetmore, William Furches, Jr. Wharry, Llewellyn Russell	Md. Va. Ill.	Wilson, Philip Harold B.S. in Ed. 1940, Illinois State Normal University	Ill.
Wheeler, Arthur Adrian Wheeler, Mary Starr A.B. 1916, Wellesley College	Mass. Conn.	Wilson, Vernon Claude Wing, Robert Claude B.S. in Eng. 1945, United States Naval Academy M.B.A. 1939, Harvard University	D.C. Maine
Whitaker, Edward Stephen A.B. 1942, Kink College	Va.		
Whitbeck, James A. B.B.A. 1938, University of Minnesota	Va.		
White, Alfred Lawson White, Irvin Albert	D.C. Nebr.		
White, Joseph, Hill A.B. 1944, American University	Va.		
White, Robert Bellarmine White, Robert Lynn B.S. 1947, Marietta College	D.C. W.Va.		

Withers, John Lewis	N.C.	Woolis, William Pape, Jr.	Va.
B.S. 1940, Davidson College		Worley, Richard Bevee	Okla.
A.M. 1941, University of North Carolina		Wortman, David Morris	D.C.
Witherspoon, Fred Lee, Jr.	Md.	A.B. 1948, The George Washington University	
B.S. in M.E. 1941, University of Maryland		Wright, Berkeley	D.C.
Wofford, William Tatum	Tex.	Wyche, Benjamin Walker	Va.
B.S. in E.E. 1942, Texas College of Arts and Industries		B.S. 1944, Virginia Polytechnic Institute	
Wolf, Don Edwards	W.Va.	Wyche, Richard Thomas	Okla.
A.B. 1941, Bethany College		A.B. 1918, University of Oklahoma	
Wolf, Lucy Jane	D.C.	Wymbs, Roy Paul	Va.
A.B. 1947, University of Texas		B.S. 1942, University of Richmond	
Wolfenson, Jay Warren	D.C.	Wymore, Max Lee	Kans.
A.B. 1948, The George Washington University		B.S. 1947, University of Kansas	
Wolfe, Lenard	Va.	Wyper, James, Jr.	Md.
A.B. 1948, The George Washington University		A.B. 1940, Princeton University	
Wolk, Morris O.	Md.	Y	
B.S. in Ch.E. 1936, Cooper Union		Yabroff, Bernard	Va.
Wolk, Reuben	Calif.	B.S. 1939, College of the City of New York	
B.S. 1938, University of Maryland		Yarnoff, Leroy Mills	D.C.
Wolman, Harold	N.Y.	Yavener, Burton	N.J.
B.S. 1942, College of the City of New York		Yeager, Philip Brand	Va.
Wolz, Charles Thompson	D.C.	A.B. 1930, University of Arizona	
B.S. in M.E. 1947, Virginia Polytechnic Institute		Yeates, Morgan Gales	Va.
Wong, Wing	N.H.	B.S. in Chem. 1941, Virginia Polytechnic Institute	
Wood, Charles William	Pa.	Young, Jack Martin	Ohio
Wood, Harry Eugene	S.C.	B.S. 1945, Case Institute of Technology	
Woodard, Douglas Duto	Ill.	Young, Maynard Fling	W.Va.
A.B. 1948, Brigham Young University		Young, Olive Emily	N.Y.
Woodbury, Wallace Richards	Utah	A.B. 1920, A.M. 1930, University of Rochester	
A.B. 1947, University of Utah		Yount, Joseph Herman, Jr.	Ohio
Woodhouse, Margaret Wark	Conn.	A.B. 1948, Oberlin College	
A.B. 1946, University of North Carolina		Z	
Woodhull, John H.	N.Y.	Zabiegalski, Anthony, Jr.	Pa.
B.S. in E.E. 1943, Tufts College		Zachary, Richard Eugene	D.C.
Woodling, Francis Albert	Pa.	Zaid, Charles	Pa.
A.B. 1946, The George Washington University		A.B. 1933, Temple University	
Woodmansee, Charles H.	Md.	Zaskalicky, Julius John	Conn.
Woods, Robert Ora	Calif.	B.E.E. 1942, Yale University	
Woods, Russell Marshall	Va.	Ziehl, Wilbur Henry	Md.
L.L.B. 1948, The George Washington University		Zitomer, Joseph	D.C.

SUMMARIES OF REGISTRATION

SUMMER TERM 1948

FALL AND WINTER TERMS 1948-49

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

United States, Territories, and Possessions

Alabama	15	Nevada	13
Arizona	3	New Hampshire	4
Arkansas	8	New Jersey	90
California	45	New Mexico	9
Colorado	5	New York	228
Connecticut	28	North Carolina	35
Delaware	1	North Dakota	6
District of Columbia	605	Ohio	74
Florida	35	Oklahoma	20
Georgia	13	Oregon	7
Idaho	4	Pennsylvania	151
Illinois	92	Rhode Island	10
Indiana	15	South Carolina	12
Iowa	29	South Dakota	4
Kansas	21	Tennessee	24
Kentucky	20	Texas	42
Louisiana	4	Utah	10
Maine	11	Vermont	3
Maryland	292	Virginia	337
Massachusetts	67	Washington	7
Michigan	26	West Virginia	42
Minnesota	11	Wisconsin	10
Mississippi	15	Wyoming	5
Missouri	23	Alaska	1
Montana	8	Hawaii	4
Nebraska	11	Puerto Rico	1

Foreign Countries

China	2	Netherlands	1
Cuba	2	Sweden	1
Guatemala	1		

GRADUATES OF COLLEGES REGISTERED IN THE LAW SCHOOL

Abilene Christian College	1	Asbury College	1
Akron, University of	2	Athens, University of	1
Alabama, University of	12	Bates College	1
Alabama Polytechnic Institute ...	1	Baylor University	2
Allegheny College	3	Berea College	2
Alma College	2	Bethany College	1
American University	8	Birmingham-Southern College ...	3
Amherst College	5	Boston University	6
Amsterdam, University of	1	Bowdoin College	1
Arizona, University of	3	Bowling Green State University..	1
Arkansas, University of	2	Bradley Polytechnic Institute ...	2

Brenau College	1	East Texas State Teachers College	2
Brigham Young University	2	Emory and Henry College	3
Brooklyn, Polytechnic Institute of	2	Emory University	2
Brooklyn College	14	Florida, University of	6
Brown University	11	Florida State College for Women	1
Buckard, University of	1	Fordham University	3
Bucknell University	6	Franklin and Marshall College	1
Buffalo, University of	1	Furman University	2
Butler University	1	George Washington University	204
Bucharest, University of	1	Georgetown University	22
California, University of	3	Georgia, University of	3
California at Los Angeles, University of	11	Georgia School of Technology	6
California Institute of Technology	4	Gettysburg College	2
Carleton College	1	Goucher College	1
Carnegie Institute of Technology	3	Grove City College	1
Case Institute of Technology	4	Hampden-Sydney College	1
Catholic University of America	3	Harvard University	26
Central State College	1	Haverford College	1
Central State Teachers College	1	Hawaii, University of	1
Centre College	1	High Point College	2
Chicago, University of	3	Hollins College	1
Chattanooga, University of	1	Holy Cross, College of the	1
Cincinnati, University of	3	Hunter College	3
Citadel, The	3	Idaho, University of	1
Clark College	1	Illinois, University of	16
Clark University	4	Illinois Institute of Technology	5
Clemson College	1	Illinois State Normal University	1
Colby College	1	Illinois Wesleyan University	1
Colgate University	2	Immaculate Heart College	1
Colorado, University of	2	Indiana State Teachers College	1
Colorado College	1	Indiana University	7
Colorado State College of Education	1	Iowa, State University of	8
Columbia University	9	Iowa State College of Agriculture and Mechanic Arts	4
Connecticut, University of	1	John B. Stetson University	1
Converse College	1	John Brown University	1
Cooper Union	3	Johns Hopkins University	5
Cornell University	15	Kalamazoo College	1
Dartmouth College	4	Kansas, University of	11
Davidson College	1	Kansas State College	1
Davis and Elkins College	1	Kent State University	1
Delaware, University of	1	Kentucky, University of	6
Denver, University of	1	King College	1
DePaul University	1	Lafayette College	5
De Pauw University	2	Lehigh University	3
Detroit, University of	2	Leiden University	1
Dickinson College	1	Lenoir-Rhyne College	1
Drake University	1	Lincoln Memorial University	1
Drexel Institute of Technology	4	Louisiana State University	4
Duke University	14	Louisville, University of	3
Duquesne University	1	Loyola University	1
East Central State College	1	Lynchburg College	1
East Tennessee State Teachers College	1	Marietta College	1
		Marshall College	4
		Maryland, University of	46

Maryville College	1	Northern Illinois State Teachers College	1
Massachusetts Institute of Technology	13	Northwestern University	1
Massachusetts State College	2	Notre Dame, University of	5
Mercer University	1	Notre Dame of Maryland, College of	1
Mexico, National University of ..	1	Oberlin College	4
Miami University	6	Ohio State University	8
Michigan, University of	16	Oklahoma, University of	7
Michigan State College of Agriculture and Applied Science	2	Oklahoma Agricultural and Mechanical College	4
Middlebury College	1	Oklahoma City University	1
Milan, University of	1	Oregon, University of	2
Millsaps College	1	Oregon State College	1
Milton College	1	Paris, University of	3
Minnesota, University of	9	Peabody Institute of the City of Baltimore	1
Mississippi, University of	1	Pennsylvania, University of	20
Missouri, University of	1	Pennsylvania State College	16
Montana State College	1	Phillips University	1
Montana State University	3	Pitt University	1
Morris Harvey College	2	Pittsburgh, University of	7
Mount St. Mary College	3	Pomona College	1
Mount Union College	1	Prague, University of	1
Muhlenberg College	2	Presbyterian College	2
National University	1	Princeton University	12
Nebraska, University of	4	Providence College	3
Nevada, University of	2	Puerto Rico, University of	1
Newark, University of	1	Puget Sound, College of	1
Newark College of Engineering ..	2	Purdue University	18
Newberry College	1	Queens College	2
New Hampshire, University of ...	5	Radcliffe College	3
New Jersey State Teachers College, Montclair	1	Rensselaer Polytechnic Institute ..	10
New Jersey State Teachers College, Paterson	1	Rhode Island College of Education ..	1
New Mexico, University of	3	Rhode Island State College	2
New Mexico College of Agriculture and Mechanic Arts	2	Rice Institute	3
New York, College of the City of ..	48	Richmond, University of	6
New York State Teachers College, Buffalo	2	Ripon College	1
New York University	20	Roanoke College	1
Niagara University	1	Rochester, University of	4
North Carolina, University of ...	17	Rutgers University	7
North Carolina State College of Agriculture and Engineering ...	1	St. Ambrose College	1
North Carolina State Teachers College	1	St. John's University, Shanghai ..	1
North Dakota, University of	3	St. Joseph's College	1
North Dakota State School of Science	1	St. Louis University	1
North Dakota State Teachers College, Valley City	1	St. Peter's College	1
North Texas State Teachers College	1	Scranton, University of	3
Northeastern University	9	Shepherd College	3
		Simpson College	1
		Skidmore College	1
		Smith College	1
		South Carolina, University of	6
		South Dakota, University of	2
		Southeast Missouri State Teachers College	1

Southeastern Louisiana College ..	1	Virginia Military Institute	2
Southern California, University of	1	Virginia Polytechnic Institute	15
Southern Illinois Normal University	1	Wake Forest College	3
Southern Methodist University ..	1	Washburn Municipal University of	
Southwestern University	1	Topeka	1
Stanford University	5	Washington, State College of	1
Stephen F. Austin State Teachers		Washington, University of	3
College	1	Washington and Jefferson College	2
Stevens Institute of Technology..	3	Washington and Lee University..	4
Stockholm, Technical University		Washington University	4
of	1	Wayne University	3
Susquehanna University	1	Wellesley College	3
Swarthmore College	2	West Liberty State College	1
Syracuse University	10	West Tennessee State Teachers	
Temple University	10	College	1
Tennessee, University of	6	West Virginia Institute of Tech-	
Texas, Agricultural and Mechan-		nology	1
ical College of	1	West Virginia University	13
Texas, University of	7	Western Maryland College	5
Texas Christian University	3	Western Michigan College of Edu-	
Texas College of Arts and Indus-		cation	1
tries	1	Western Reserve University	5
Texas Technical College	1	Wheaton College, Ill.	1
Thiel College	1	Whitman College	1
Trinity College	4	Whitworth College	1
Tufts College	8	William and Mary, College of ...	6
Tulane University	2	Williams College	1
Union College	4	Wisconsin, University of	10
United States Coast Guard Acad-		Wisconsin State Teachers College,	
emy	4	LaCrosse	1
United States Merchant Marine		Wisconsin State Teachers College,	
Academy	1	White Water	1
United States Military Academy..	6	Wittenberg College	2
United States Naval Academy ...	24	Wofford College	1
University Erlangen	1	Wooster, College of	1
Utah, University of	5	Worcester Polytechnic Institute..	5
Utah State Agricultural College..	1	Wurtzburg, University of	1
Vanderbilt University	2	Wyoming, University of	2
Vassar College	1	Yale University	82
Villanova College	3	Yankton College	2
Virginia, University of	15	Number of college graduates	1,280
		Number of colleges represented	291

SUMMARY OF REGISTRATION

1948-49

	Men	Women	Total
First year	1,004	82	1,086
Second year	809	46	855
Third year	425	20	445
Candidates for the degree of Master of Laws	150	5	155
Candidates for the degree of Master of Comparative Law	16	2	18
Candidates for the degree of Doctor of Juridical Science.	16	1	17
Unclassified	64	1	65
Total	2,484	157	2,641

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THE SCHOOL OF MEDICINE

1949-50

THE
GEORGE
WASHINGTON
UNIVERSITY
BULLETIN

VOL. XLVIII

No. 1

THE SCHOOL OF MEDICINE

WASHINGTON, D. C.

PUBLISHED IN FEBRUARY
MCMXLIX

BY THE UNIVERSITY

CALENDAR OF THE SCHOOL OF MEDICINE

1949-50

Date	Day	Occasion
1949:		
Sept. 13	Tuesday	Reexaminations
Sept. 15 and 16....	Thursday and Friday....	Registration period for the academic year 1949-50
Sept. 19	Monday	Academic year begins
Nov. 11	Friday	Armistice Day. Holiday
Nov. 24-26	Thursday through Sat- urday	Thanksgiving recess
Dec. 22-Jan. 2....	Thursday through Monday	Christmas recess
1950:		
Jan. 20-28	Friday through Saturday.	Fall term examination period
Jan. 30.....	Monday	Classes resume for the winter term
Feb. 22.....	Wednesday	Winter Convocation. Holiday
April 7 and 8.....	Friday and Saturday....	Easter recess
May 1.....	Monday	Last day for applications for degrees to be conferred in May
May 18-26.....	Thursday through Friday.	Winter term examination pe- riod
May 28.....	Sunday	Baccalaureate Sermon
May 31.....	Wednesday.....	Commencement

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Clinical Instructor in Oto-rhino-laryngology. Associate in Oto-rhino-laryngology, University Hospital
- JOHN AUGUSTINE WASHINGTON, A.B., B.S., M.D.
Assistant Clinical Professor of Pediatrics. Associate in Pediatrics, University Hospital
- JAMES WINSTON WATTS, B.S., M.D.
Professor of Neurological Surgery. Chief of Neurosurgery, University and Gallinger hospitals

GEORGE DAVIS WEICKHARDT, M.D.

Clinical Instructor in Neurology. Associate in Neurology, University Hospital

JACOB JOSEPH WEINSTEIN, B.S., PHAR.G., M.D.

Associate in Surgery. Associate in Surgery, University and Gallinger hospitals

CARL HUNT WELLS, B.S., M.D.

Associate Professor of Pathology. Associate in Pathology, University and Gallinger hospitals

RUTH HECHLER WICHELHAUSEN, M.D.

Associate in Medicine

RICHARD WALLACE WILKINSON, M.S., M.D.

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WENDELL MELVIN WILLETT, M.D.

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CHARLES SAMUEL WISE, B.S., M.D.

Associate Professor of Physical Medicine. Director of Physical Medicine, University Hospital; Chief of Department of Physical Medicine, Gallinger Hospital

HENRY HARCUS WORK, A.B., M.D.

Associate in Pediatrics

WILLARD HULL WRIGHT, D.V.M., Ph.D.

Professorial Lecturer on Medical Zoology

CLARK HARVEY YEAGER, M.D., Dr.P.H.

Professorial Lecturer on Tropical Medicine

HYMAN JOSEPH ZIMMERMAN, A.B., M.D.

Clinical Instructor in Medicine

RAYMOND LULL ZWEMER, Ph.D.

Professorial Lecturer in Anatomy

ASSISTANTS

ASSISTANTS IN RESEARCH AND INSTRUCTION

RUTH BENEDICT, A.B., M.D.

Teaching Fellow in Cardiology

SAMUEL BESSMAN, M.D.

Fellow in Pediatrics

ESTON ROBERT CALDWELL, B.S., M.D.

Research Fellow in Medicine

ALLAN BERTRAM COLEMAN, M.D.

Teaching Fellow in Pediatrics

JOSEPH AUGUSTINE CONNOR, JR., M.D.

Teaching Fellow in Medicine

- CHARLOTTE MOOAR DAMRON, M.S.
Teaching Fellow in Biochemistry
- JEROME HAROLD EPSTEIN, M.S.
Graduate Assistant in Biochemistry
- MORTIMER JAMES FOLSTON, A.B., M.D.
Teaching Fellow in Pediatrics
- JASON GEIGER, A.B., M.D.
Research Fellow in Pulmonary Diseases
- EZRA MARTIN GREENSPAN, A.B., M.D.
Research Fellow in Medicine
- JOSEE GHISLAINE HOEBEKE, M.D.
Fellow in Anesthesiology
- LEROY EDWARD HOECK, M.D.
Research Fellow in Pediatrics
- JACK KLEH, A.B., M.D.
Research Fellow in Cardiology
- JAMES PACKARD MANN, M.D.
Teaching Fellow in Pulmonary Diseases
- JEAN MAYER, Ph.D.
Research Associate in Pharmacology
- LOUIS JOSEPH MICHINI, A.B.
Sanders Fellow in Bacteriology
- MAX STEPHEN MILLAR, M.D.
Teaching Fellow in Pathology
- ZELMA BAKER MILLER, B.S., Ph.D.
Research Associate in Pharmacology
- ROBERT RICE MONTGOMERY, A.B., M.D.
Teaching Fellow in Pathology
- LUIS GUILDBALDO MURILLO, B.S., M.D.
Fellow in Neurology
- HOWARD CLEMETH PIERPONT, A.B., M.D., C.M.
Fellow in Surgery
- EUGENE WORTHINGTON RICE, B.S.
Sanders Fellow in Biochemistry
- MARIAN ELIZABETH ROSSI, A.B.
Sanders Fellow in Bacteriology
- FREDERICK SHILLINGER, B.S., M.D.
Teaching Fellow in Pathology
- BENJAMIN WILLIAMS SMITH, B.S.
Sanders Fellow in Biochemistry
- HYMAN ERWIN STEINMAN, M.D.
Teaching Fellow in Physiology
- CELIA WHITE TABOR, A.B., M.D.
Research Associate in Pharmacology
- LASZLO NANDOR TAUBER, M.Ch., M.D.
Teaching Fellow in Neurological Surgery
- EKREM TURAN, M.D.
Teaching Fellow in Obstetrics and Gynecology

MERTON WAITE, M.D.

Teaching Fellow in Anatomy

RICHARD LEE WHELTON, M.D.

Teaching Fellow in Medicine

TECHNICAL ASSISTANTS

James Crawford Bruce, *Laboratory Assistant in Animal Care*

Arnold Irwin Goodfriend, *Technician in Pharmacology*

Solomon Hazen, *Technician in Biochemistry*

Rosemary Imbert, A.B., *Technician in Medicine*

Carroll Wirt Lawrence, *Technician in Bacteriology*

Clarence Wilbur Miller, *Technician in Pathology*

Cayetano Nagac, A.B., *Technician in Pathology*

Virginia Sutton Ringness, *Research Assistant in Obstetrics and Gynecology*

Bess Sullivan, A.B., *Technician in Medicine*

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Catherine Breen, *Assistant to the Dean of the School of Medicine*

Sally Brewster Jamieson, A.B., B.S. in L.S., *Assistant Librarian, Medical Library*

Caroline Sykes, B.S., *Secretary*

Shirley Thorne Eads, *Secretary*

Joyce Elizabeth Smith, *Secretary*

Betty Lou Watkins, *Secretary*

Ella Paris Heard, R.N., *Administrative Secretary, Postgraduate Department*

Joan Winifred Weidaw, *Secretary, Postgraduate Department*

Alicia Frances Lacy, *Secretary*

THE SCHOOL OF MEDICINE

THE FACULTY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Dean of the School of Medicine*
Thomas Martin Peery, A.B., M.D., *Director of Postgraduate Instruction*

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry*
Walter Freeman, Ph.D., M.D., *Professor of Neurology*
Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*
Errett Cyril Albritton, A.B., M.D., *Professor of Physiology*
Roger Morrison Choisser, B.S., M.D., *Professor of Pathology*
Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry*
Leland Wilbur Parr, Ph.D., *Professor of Bacteriology*
Frederick A. Reuter, M.D., *Professor of Urology*
Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology*
Daniel Bruce Moffett, A.B., M.D., *Professor of Oto-rhino-laryngology*
John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology*
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Paul Kenneth Smith, Ph.D., *Professor of Pharmacology*
James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*
Warren Andrew, Ph.D., M.D., *Professor of Anatomy*
Thomas McPherson Brown, A.B., M.D., *Professor of Medicine*
Lloyd Harvey Mousel, M.S., M.D., *Professor of Anesthesiology*
Chester Elwood Leese, Ph.D., *Professor of Physiology*
Radford Brown, M.D., *Clinical Professor of Obstetrics and Gynecology*
Thomas Carlten Thompson, B.S., M.D., *Clinical Professor of Urology*
Daniel LeRay Borden, A.M., M.D., *Clinical Professor of Surgery*
Thomas Martin Peery, A.B., M.D., *Associate Professor of Pathology*
Angus MacIvor Griffin, Ph.D., *Associate Professor of Bacteriology*
Carleton Raymond Treadwell, Ph.D., *Associate Professor of Biochemistry*
William Stanbro, M.D., *Associate Professor of Radiology*
Charles Samuel Wise, B.S., M.D., *Associate Professor of Physical Medicine*
William Staton Anderson, A.B., M.D., *Clinical Professor of Pediatrics*
Leo Gregor Schmelzer, *Superintendent of the University Hospital*

COMMITTEES •

THE DEAN'S COUNCIL

Joseph Hiram Roe

Brian Blades

Winfred Overholser

COMMITTEE ON ADMINISTRATION OF THE UNIVERSITY HOSPITAL AND
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Carleton Raymond Treadwell

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Angus MacIvor Griffin

COMMITTEE ON SCHOLARSHIP

John Parks, *Chairman*

Joseph Hiram Roe

Leland Wilbur Parr

Warren Andrew

* The President of the University and the Dean of the School of Medicine are members ex officio of all committees.

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Lloyd Harvey Mousel, *Chairman*

Thomas Martin Peery

Brian Blades

John Parks

Thomas McPherson Brown

Leo Gregor Schmelzer

COMMITTEE ON HOSPITAL PRIVILEGES

Thomas McPherson Brown, *Chairman*

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ADVISORY COMMITTEE ON POSTGRADUATE INSTRUCTION

Thomas Martin Perry, *Chairman*

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Thomas McPherson Brown

John Parks

Harry Filmore Dowling

Ernest Alfred Watson Sheppard

Lewis Kaigler Sweet

GENERAL INFORMATION

INTRODUCTORY

The School of Medicine of The George Washington University was opened in March 1825; of the medical schools now in existence in the United States, it is the eleventh in chronological order of founding. The University Hospital and Dispensary were established in 1898 and made a part of the organization of the School.

The School is a member of the Association of American Medical Colleges and is one of the medical colleges which have been designated continuously as "class A" by the American Medical Association. The degrees of the School of Medicine are recognized by all state examining boards.

PLAN OF INSTRUCTION

Each year of the medical curriculum is divided into two terms of sixteen weeks each. Beginning in June 1950, the schedule of the senior year will be on a quarterly basis covering a calendar year. The formal academic assignments will occupy three terms. The fourth term will be free for the election of additional experience or investigative work, or for vacation. The senior class will be divided into four groups. Group I will be free in the summer; Group II, in the fall; Group III, in the winter; and Group IV, in the spring.

The Faculty of the School of Medicine will organize the electives for the free quarter so as to make them important factors in the program. It is planned that electives may include: (1) junior internship; (2) investigative work; or (3) clinical experience under a general practitioner or specialist.

The salient features in the method of instruction are thorough laboratory training, demonstrations, and clinical teaching, with recitations and lectures to clarify the many problems presented. The clinical material in the various hospitals and outpatient departments is utilized to the fullest extent for both clinical instruction and laboratory work.

EQUIPMENT AND FACILITIES

The George Washington University Hospital.—The new hospital, with a capacity of 400 beds, was opened in 1948. This splendid new edifice, which is one of the outstanding hospitals in the United States, is completely furnished with the latest and most scientific apparatus and equipment. Its purpose is to supplement existing hospital resources in the District of Columbia for the care of the sick and the injured; the education of physicians, nurses, and technicians; and the advancement of medical knowledge.

The hospital is staffed and controlled by the Faculty of the George Washington University School of Medicine and it provides excellent clinical material for the instruction of medical students. Virtually every specialty in the fields of medicine and surgery has assigned space and equipment in both the outpatient department and the bed-patient section of this modern institution.

Medical School Building.—The building housing the School of Medicine is a five-story structure with lecture rooms and classrooms, laboratories, and students' rooms.

Laboratories.—A four-story laboratory building is adjacent to the main medical building. The major laboratories are for anatomy, histology and embryology, bacteriology, hygiene and preventive medicine, biochemistry, pathology, pharmacology and physiology, and clinical microscopy. They are fully equipped to enable students to pursue adequately the laboratory courses and to acquire the technical skill necessary in modern clinical and investigative work.

Medical Library.—The Library contains a selected reference collection of more than 10,000 volumes, and provision is made to add to it the important new medical works. The principal medical periodicals are received regularly.

The library is open from 9:00 A.M. to 9:00 P.M. each class day (Saturday, 9:00 A.M. to 1:00 P.M.).

GOVERNMENT LIBRARIES AND MUSEUMS

The Library of the Surgeon General's Office of the United States Army is the most complete general medical library in the world. In addition to its great collections of medical works, all leading medical

periodicals of the world are available. This Library, as well as the Library of Congress, the Public Library, and the many excellent libraries of the various government departments, is available to students and teachers through a service maintained by the Medical School Library.

The Army Medical Museum affords opportunity for studying the conditions met in military and general medicine and surgery. Its collection of anatomical and pathological specimens is unequalled by any other museum in this country. The Museum of Hygiene, the National Museum, the Smithsonian Institution, the Botanic Gardens and the Department of Agriculture all afford opportunities for study in Medicine and its allied sciences.

CLINICS

The city of Washington, with about a million inhabitants, provides ample clinical material. The University Hospital and Outpatient Department furnish clinical facilities and a large proportion of the materials studied in the courses in pathology and clinical pathology.

The University Hospital.—All clinics are under the supervision of the Dean, who is also Medical Director of the Hospital. This insures the highest possible utilization of available clinical material for teaching purposes and the proper supervision of clinicians and students: it brings the individual student into direct contact with patients and requires him to do, under authoritative supervision, the clinical and laboratory work necessary for diagnosis and treatment; and it permits proper interpretation of the conditions occurring during the progress of cases and promotes the keeping of adequate records. Clinical and clinico-pathological conferences are held in which the history of cases, the physical findings, laboratory records, and the post-mortem pathology when available, are presented and correlated.

The Outpatient Department.—The Outpatient Department has clinical facilities for each Service in the Hospital. Fourth-year students are assigned in rotation by section for clinical instruction in the Outpatient Department.

Cancer Clinics.—The facilities of the Cancer Detection Clinic are available to medical students. In addition the diagnosis and treatment of various forms of neoplasms are presented. The results of the treatment of neoplasms are evaluated by follow-up studies.

The Helen L. and Mary E. Warwick Memorial, for cancer and allied diseases, was affiliated with The George Washington University in July 1948. The purposes of this clinic are (1) to provide care for cancer patients, through group consultations within a cancer organization, and (2) to provide training for physicians in the field of oncology.

Gallinger Municipal Hospital.—Clinical instruction is available in all

branches of medicine. A great wealth of clinical material is afforded in this hospital and by ordinance of the municipal authorities of the District of Columbia, members of the Faculty of this School of Medicine, who are nominated by this University, are assigned approximately one-third of the patients for treatment and clinical study. Third-year students serve their clinical clerkships at this institution.

Childrens Hospital.—Clinical instruction in pediatrics, dermatology, and orthopedic surgery.

Emergency Hospital and Central Dispensary.—Clinical instruction in medicine, surgery, and the specialties.

Garfield Memorial Hospital.—Clinical instruction in gynecology and obstetrics in the outpatient department, on the wards, and in the operating room.

St. Elizabeths Hospital.—Clinical instruction in mental and nervous diseases, medicine, post-mortem work, and gross pathology. This hospital with 6,577 beds, is maintained by the United States Government. The psychiatric clinic is one of the largest in the world.

Episcopal Eye, Ear and Throat Hospital.—Clinical instruction in ophthalmology, otology, rhinology, and laryngology.

Mt. Alto Hospital.—Clinical instruction in medicine and surgery is available and fourth-year students are assigned in rotation by sections for clinical clerkships.

Walter Reed General Hospital.—Clinical instruction is available in all branches of medicine and surgery. Fourth-year students are assigned in rotation by sections for clinical instruction.

ADMISSION

Ninety hours of credit applicable toward a degree in this University or another college of liberal arts and sciences are required for admission to the School of Medicine.

A credit hour represents one class hour or a minimum of two laboratory hours a week for a period of one term of approximately fifteen weeks.

SPECIFIC EDUCATIONAL REQUIREMENTS

Secondary School Requirements

Of the fifteen secondary school units required, three must be in English, two in one foreign language (ancient or modern), one in algebra, one in geometry, one in history, and one in science (biology, botany, chemistry, or physics). Eleven of the units offered must be in English, foreign language, mathematics, science, and history.

Premedical College Requirements

NINETY CREDIT HOURS

1. Chemistry, sixteen credit hours as follows: (a) eight credit hours in general inorganic chemistry of which at least four credit hours are laboratory work (qualitative analysis may be counted as general inorganic chemistry); (b) eight credit hours or a one-year college course of organic chemistry, including laboratory work.

2. Physics, eight credit hours, of which at least two credit hours are laboratory work. It is recommended that this course be preceded by one in trigonometry.

3. Biology, eight credit hours, of which at least four credit hours are laboratory work. This requirement may be satisfied by a course of eight credit hours in either general biology or zoology, or by four credit hours each in zoology and botany, but not by botany alone.

4. English composition and literature, six credit hours: the usual introductory college course or the equivalent. The student should develop facility in speaking and writing English.

5. Modern foreign language: a reading knowledge, preferably of French or German.

6. Electives. It is recommended that the remaining credit hours required include: (a) comparative vertebrate anatomy; (b) qualitative and quantitative chemical analysis; (c) social science and psychology.

ADVANCED STANDING

A student who has satisfactorily attended one or two years at any other "class A" medical school, and who has the necessary preliminary educational requirements, may be admitted to advanced standing.

APPLICATION FOR ADMISSION

1. Full directions for application will be furnished on request. The applicant should ask the registrar of each college previously attended to send an official transcript of record to the Director of Admissions, The George Washington University. Photostatic copies of credentials without the original signature of the certifying authority are not satisfactory.

2. A recent photograph, with signature, is required of each applicant.

3. As the number of qualified applicants for admission to the School each year far exceeds its capacity, the candidate for admission should secure from the colleges attended completely compiled premedical credentials and send them for evaluation well in advance of the term for which he is applying.

4. A fee of \$3 to defray the costs of completing the records for final consideration for admission must accompany each application.

REGISTRATION AND ADMISSION TO CLASSES

Registration in the School of Medicine is for a period of one academic year. After the student has entered the courses of instruction he is obligated for the full tuition for the academic year. No part of the tuition will be refunded upon withdrawal or dismissal for any cause. Acceptance by the School of a student's fees does not in any way obligate the School to accept the student for any subsequent year, and the right is reserved to drop any student from the School whenever, in the interest of the student or the School, the Faculty deems it advisable to do so.

FEES AND FINANCIAL REGULATIONS

The following fees have been adopted:

Tuition fee, for each academic year.....	\$650.00
Fee for special examinations, for each subject.....	5.00
Graduation fee	20.00

PAYMENT OF FEES

Fees for each term are \$325, payable in advance.

All fees are payable at the Office of the Cashier of the University, 725 Twenty-first Street NW. Fees due must be paid at the time of registration; no student is permitted to complete registration or to attend classes until fees are paid.

On account of the many applications for admission, and as the size of each class is limited, places can be reserved only for those qualified applicants who remit a deposit of \$100 which will be credited toward the tuition of the first term. Should unusual circumstances arise whereby the matriculant is unable to attend, this initial payment, less a charge of \$50 for registration, transfer, etc., will be returned up to one month before the opening of the session.

Students will be required to pay for injury to apparatus and other University property. All breakage and loss not directly traceable to an individual student are assessed pro rata. Each student is required, at the completion of laboratory courses, to replace or pay for all articles of equipment which he has lost, broken, or destroyed. Credit for work will not be given until this is done.

COST OF TEXTBOOKS AND STUDENT EQUIPMENT

The minimum cost of necessary textbooks and student equipment (microscope, drawing materials, glass slides, clinical thermometer, stethoscope, hemocytometer, etc.) is approximately as follows: first year, \$400; second year, \$250; third year, \$90; fourth year, \$80; total, \$820.

A fee of \$1 a term is charged for the use (optional) of a locker.

LOAN FUNDS

For information concerning loan funds consult the Chairman of the Committee on Student Loans and Scholarships, The George Washington University.

LIVING ACCOMMODATIONS

Women Students.—Women students under twenty-one years of age who are enrolled for twelve or more credit hours of academic work in the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In the women's residence halls, single rooms with breakfast and dinner are \$60 and \$65 a month; double rooms, with the same service, are \$53 and \$58 a month a person. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women.

Men Students.—A limited number of single and double rooms are provided for men students in temporary dormitories. Residence is restricted to veterans of World War II who are enrolled for a minimum of twelve credit hours of academic work in the University. Vacancies will be filled from the list of applicants in accordance with the date of application. Single rooms are \$17 a month; double rooms are \$13 a month a person. Forms for applications for room reservation may be obtained from the Director of Activities for Men.

REGULATIONS

Students in the School of Medicine are subject to, and are expected to familiarize themselves with, the general University regulations stated in the University Catalogue.

ABSENCE

Absence is not allowed unless an excuse is obtained from the Dean or the instructor.

Absence consists in being away from a class or clinic during a scheduled period, entering after the class or clinic has begun, or leaving before either is dismissed.

Excuse for absence due to sickness must be accompanied by a certificate signed by the attending physician and must be filed in the Office of the Dean.

For every unexcused absence a department will deduct one-half of one per cent from the student's final grade in the subject involved.

GRADES

The following grading system is used: *A* (90-100); *B* (80-89); *C* (75-79); *D* (65-74) condition; *E* (below 64) failure; *Inc.*, incomplete. The passing grade in each subject is *C*.

A student who is conditioned in any subject will not be advanced until such condition is removed and then only by authority of the Committee on Scholarship. All conditions must be removed at the next make-up examination period provided for this purpose.

EXAMINATIONS

Examinations, which may be written, oral, or practical, will be held at the end of each term.

A student who fails to appear at a regularly scheduled final examination will not be examined until the next regular examination, except by special permission of the Committee on Scholarship. For make-up examinations to remove conditions, a fee of \$5 will be charged for each subject.

All students in the School of Medicine are required to take Part I and Part II of the National Board Examinations, except that students from those states and foreign countries which do not recognize the National Board may be exempted from Part II by action of the Committee on Scholarship.

SPECIAL UNDERGRADUATE AND GRADUATE ADVANTAGES

HEALTH ADMINISTRATION

Students are entitled to the health services hereinafter described. Through reports from the students and University officials, the University attempts to keep informed as to all cases of illness among its students. This service is primarily diagnostic in its intent. It also provides first aid in the event of an emergency.

Medical privileges include: (1) the physical examination of all entering students; (2) three visits by the University physician or surgeon, office or residence (District of Columbia) in any one illness, exclusive of a specialist, surgical operation, laboratory, or X-ray examination; (3) hospitalization, including board, medicine, and nursing in the University Hospital for not more than two weeks during an academic year—the necessity to be determined by the Director of Health Administration. The duration of hospitalization period (maximum, two weeks) is also to be determined by the Director of Health Administration.

This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of the University registration fee.

Students are allowed, if they so desire, to engage physicians and nurses of their own choice, but when they do so they will be responsible for the fees charged.

Rules: (1) The Director of Health Administration is empowered to limit or deny the medical benefits where, in his discretion, a student has, by his misconduct or breach of the rules of the University, made himself

ineligible; (2) the Director of Health Administration has authority to determine the necessity and length of hospitalization; (3) students who have severed their connection with the University are ineligible for medical benefits.

PHYSICAL EXAMINATIONS *

All first-year students are given a comprehensive physical examination by the Department of Health Administration upon admission to the School of Medicine. The students are informed of the findings and advised regarding such measures as will tend to maintain a high standard of health.

In addition medical students benefit from the complete Tuberculosis Case Finding Program which the School has maintained since 1938-39. Under this program all students receive tuberculin tests, X-ray examinations, and such special attention from chest specialists as is necessary to reduce to a minimum the dangers from tuberculosis to which medical students are believed to be subject. Students are immunized against those diseases for which proven prophylactics exist.

AWARDS AND HONOR SOCIETIES

John Ordronaux Prize.—This prize of \$70 is awarded annually to the member of the graduating class of the School of Medicine who has completed the four-year medical course with the highest scholastic standing.

William Beaumont Medical Society.—Medical students showing unusual ability are elected by the active members of this society, which was founded to encourage and stimulate individual investigation.

Howard Kane-A. F. A. King Obstetrical Society.—The fifteen students in the third and fourth year classes who maintain the highest grades in their work in obstetrics are eligible for membership.

Smith-Reed-Russell Society.—Students of the third and fourth years who maintain a scholastic average of 86 per cent are eligible for associate membership.

RESERVE OFFICERS' TRAINING CORPS, U. S. ARMY, MEDICAL UNIT

A Medical Unit of the Reserve Officers' Training Corps is established in this School by authority of the Secretary of the Army, and an officer of the Medical Corps of the Army is detailed to the University for supervision and instruction of the unit.

The instruction is divided into two two-year courses, the basic and the advanced. Each course consists of 90 hours—58 hours of prescribed

* A charge of \$2 is made if a student fails to appear for a physical examination during the period set for this purpose.

medical instruction given by the Medical School and 32 hours of military medical instruction. Students who satisfactorily complete the basic course may, up to the quota allowed by the Department of the Army, enter the advanced course. Students in the advanced course receive, from the Government, a stipend of approximately \$700.

Students in the advanced course are required to complete the course and to attend a summer training period of six weeks.

A student who successfully completes the course is recommended for a commission in the Medical Corps Reserve, if he desires appointment. It is the policy of the Department of the Army to give preference to graduates of this course in the selection for Army internship.

MEMBERSHIP IN THE UNIT

Membership in the Unit, which is voluntary, is open to any physically fit male student who is a citizen of the United States and who is, at the time of enrollment, within the following specified age limits: under 26 years of age for the basic course, under 29 for the advanced course. For veterans of World War II, there is no age limit until January 1, 1950, for the basic course; until January 1, 1952, for the advanced course. Veterans with a minimum of six months' service receive credit for the first year of the basic course; those with a minimum of twelve months' service receive credit for both years of the basic course.

COMMISSION ON LICENSURE, DISTRICT OF COLUMBIA

Graduates who wish to take the examinations of the Commission on Licensure, District of Columbia, or desire to use the District license for reciprocity with the states, should apply to the Secretary, Commission on Licensure, Healing Arts Practice Act, District Building, Washington 1, D. C.

DEPARTMENTS OF INSTRUCTION

The work of the School is organized under the following departments: Anatomy; Anesthesiology; Bacteriology, Hygiene, and Preventive Medicine; Biochemistry; Dermatology and Syphilology; Medicine; Military Science and Tactics; Neurology and Neurological Surgery; Obstetrics and Gynecology; Ophthalmology; Oto-rhino-laryngology; Pathology; Pediatrics; Pharmacology; Physical Medicine; Physiology; Psychiatry; Radiology; Surgery; and Urology.

CLINICS

Courses of clinical instruction are included in the announcements of the clinical departments. The Dean prepares schedules of clinics and of student section assignments to the various hospitals.

THE DEGREE OF DOCTOR OF MEDICINE

Upon the satisfactory completion of the requirements of the School of Medicine, the degree of Doctor of Medicine is conferred.

REQUIREMENTS FOR THE DEGREE

Every candidate for graduation with the degree of Doctor of Medicine must be at least twenty-one years of age, of reputable character, and free of all indebtedness to the University. He must have satisfied the admission requirements, completed satisfactorily not less than four academic years of study as a matriculated student in Medicine, completed all required courses, and passed satisfactorily all prescribed examinations.

COMBINED ARTS AND MEDICINE CURRICULUM

In order to be recommended for the degree of Bachelor of Arts, the candidate must complete at least ninety credit hours of prescribed college work (at least thirty credit hours and one year of residence must be completed in Columbian College, the senior liberal arts college), and the first year of the medical curriculum. Upon satisfactory completion of the fourth year of the medical curriculum the student becomes eligible for the degree of Doctor of Medicine.

HONORS

A candidate who has completed the four-year medical course with an average grade of *A* may be recommended for graduation "with distinction".

GRADUATE AND POSTGRADUATE OPPORTUNITIES

POSTGRADUATE INSTRUCTION

The School of Medicine offers annually a series of short intensive postgraduate courses, varying somewhat from year to year. The series is designed for physicians in practice. The significant advances in the various specialties are presented, together with summaries of older information. A distinguished Guest Faculty supplements the Staff of the Medical School.

The Kellogg Medical Lectures, inaugurated in 1948, are a series of evening lectures and clinics, designed primarily for physicians practicing in Washington and vicinity. They are also attended by the Faculty, postgraduate students, and members of the senior class of the School of Medicine.

During the academic year 1948-49 approximately 600 physicians were enrolled in postgraduate courses.

INTERN AND RESIDENT TRAINING PROGRAM

The George Washington University offers twenty internships which are divided into two categories of ten straight medical and ten straight surgical. All interns, regardless of the Service to which they are assigned, will be given a period of training in obstetrics and gynecology.

Accredited resident training will be offered in Anesthesiology, Medicine, Neurology, Obstetrics and Gynecology, Ophthalmology, Oral Surgery, Pathology, Radiology, and Surgery.

TECHNICIAN TRAINING COURSES

ORTHOPTIC TECHNICIAN TRAINING COURSE

A six-month course, of 675 hours of clinical and classroom work, is offered for the training of orthoptic technicians by the Department of Ophthalmology.

MEDICAL TECHNOLOGISTS COURSE

The course for medical technologists consists of twelve consecutive months of didactic and practical work in all phases of clinical laboratory technique. The course meets the full requirements of the Registry of Medical Technologists and the American Society of Clinical Pathologists. Prerequisite: biology, twelve credit hours of which at least six must be zoology. The other six may be elected from: histology, embryology, anatomy, physiology, parasitology, and bacteriology. Chemistry: general inorganic chemistry, eight credit hours of which at least four credit hours must be laboratory work. Quantitative analysis: at least four credit hours with not less than one credit hour of laboratory work. (Organic chemistry may be substituted for quantitative analysis, for the present.) Electives: sufficient to give a total of 60 hours of college credit. The following courses are highly recommended but they are not required: physics, biochemistry, advanced bacteriology, and mathematics.

For application blanks and further information, address the Director of Admissions, The George Washington University, Washington 6, D. C.

COURSES OF INSTRUCTION

On the following pages of this BULLETIN, under the alphabetically arranged names of the departments of instruction, are listed the courses of instruction offered by the School of Medicine. The courses here listed are subject to some slight change. The University reserves the right to withdraw any course announced.

EXPLANATION OF COURSE NUMBERS AND SYMBOLS

The number which precedes the name of a course indicates the term of the academic year in which the course is offered. An odd number indicates that the course is offered in the fall term; an even number, that it is offered in the winter term; and a double number (e.g., 343-44), that it begins in the fall term and continues in the winter.

A number in parentheses after the name of a nonprofessional course, indicates credit hours.

First-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and fourth-year courses, from 401 to 500.

ANATOMY

Warren Andrew, Ph.D., M.D., *Professor of Anatomy, Executive Officer*
 Ross Clayton MacCardle, Ph.D. *Professorial Lecturer in Anatomy*
 Raymond Lull Zwemer, Ph.D., *Professorial Lecturer in Anatomy*
 John William Kemble, A.B., M.D., *Professorial Lecturer in Anatomy*
 Paul Calabrisi, A.M., *Associate Professor of Anatomy*
 Frederick Burgess Hartsock, M.D., *Instructor in Anatomy*
 Merton Waite, M.D., *Teaching Fellow in Anatomy*

- | | | |
|---------|---|-----------|
| 101-2 | Gross Anatomy
Regional dissection of the human body supplemented with lectures and quiz sections. Study of X-ray anatomy to emphasize the functional aspects of the position, shape, and relation of the viscera and skeletal components. Eighteen hours a week, fall term; nine hours a week, winter term. | The Staff |
| 103 | Human Embryology
The origin and development of the human body. Special emphasis on the value of embryology in interpreting anatomical anomalies and variations as seen in gross dissection, surgery, obstetrics, and pathology. Three hours a week. | The Staff |
| 105 | Neuro-anatomy
The macroscopic and microscopic study of the central nervous system and the special sense organs. Emphasis on such dynamic aspects as development, pathways, lesions, etc. Six hours a week. | The Staff |
| 106 | Microscopic Anatomy
Study of the detailed minute structure of cells, tissues, and organs of the human body with emphasis on the relation of structure to function. Recognition and interpretation of histological sections tested by practical examinations. Six hours a week. | The Staff |
| 201-2 | Seminar
Reports and discussions of special topics by the staff and graduate students. Regular medical students are encouraged to attend. One hour a week. | The Staff |
| 295-96 | Research
Hours and credits to be arranged. | The Staff |
| 299-300 | Thesis (3-3) | The Staff |

ANESTHESIOLOGY

Lloyd Harvey Mousel, M.S., M.D., *Professor of Anesthesiology, Executive Officer*

Donald Harrison Stubbs, A.M., M.D., *Clinical Professor of Anesthesiology*

Charles Seymour Coakley, M.D., *Assistant Professor of Anesthesiology*

Seymour Alpert, A.B., M.D., *Instructor in Anesthesiology*

Josee Ghislaine Hoebeke, M.D., *Fellow in Anesthesiology*

261 *Anesthesiology*

The Staff

Review of basic sciences and correlation between basic sciences and clinical work. One hour a week.

433-34 *Advanced Anesthesiology*

The Staff

Fourth-year students are rotated through the work of the department for a period of two weeks for each student and assigned to work in operating rooms, conferences, and seminars.

480 *Research*

The Staff

Hours to be arranged.

BACTERIOLOGY, HYGIENE, AND PREVENTIVE MEDICINE

Leland Wilbur Parr, Ph.D., *Professor of Bacteriology, Executive Officer*
Ralph Gregory Beachley, M.D., Dr.P.H., *Adjunct Professor of Public
Health Practice*
Angus MacIvor Griffin, Ph.D., *Associate Professor of Bacteriology*
Mary Louise Robbins, Ph.D., *Assistant Professor of Bacteriology*
Lewis Walke McIlhany, M.S., M.D., *Clinical Instructor in Public
Health Practice*
William Gray McCarten, B.S., *Associate in Bacteriology*
Louis Joseph Michini, A.B., *Sanders Fellow in Bacteriology*
Marian Elizabeth Rossi, A.B., *Sanders Fellow in Bacteriology*

SEMINAR LECTURERS

Charles Armstrong, B.S., M.D., Sc.D., *Professorial Lecturer in Pre-
ventive Medicine*
Rolla Eugene Dyer, A.B., M.D., LL.D., *Professorial Lecturer in Pre-
ventive Medicine*
Royd Ray Sayers, A.M., M.D., *Professorial Lecturer on Industrial
Hygiene*
Sara Elizabeth Branham, Ph.D., M.D., Sc.D., *Professorial Lecturer in
Preventive Medicine*
Chester Wilson Emmons, Ph.D., *Professorial Lecturer on Medical My-
cology*
Willard Hull Wright, D.V.M., Ph.D., *Professorial Lecturer on Medical
Zoology*
John Roderick Heller, Jr., B.S., M.D., *Professorial Lecturer on Venereal
Disease Control*
Carl John Lauter, M.S., *Professorial Lecturer on Municipal Sanitation*
Robert Carter Cook, *Professorial Lecturer on Medical Genetics*
Robert Hanna Felix, M.D., M.P.H., *Professorial Lecturer on Mental
Hygiene*

112 General Bacteriology (4)

Griffin, Robbins
A study of the fundamentals of bacteriology, including industrial and
hygienic applications. Several groups of bacteria, yeasts, and molds
are studied in the laboratory. Material fee, \$7.50. Tues., Thurs.,
and Sat., 9:10 to 12:00 A.M.

- 209 *Medical Microbiology (1-13)* Parr and Staff
Bacteria, rickettsia, viruses, yeasts, molds, protozoa, and metazoa which relate to the health and diseases of man—cultural study of most important forms; methods of diagnosis by microscopic, cultural, immunologic, and animal reaction method; theory and methods of immunology; vaccines; serums; antibiotics; epidemiology and fundamentals of preventive medicine and public health practice. Open to suitably prepared graduate students; may be elected as a whole or in part, with credit allocated as follows: (a) *Bacteriology*, including rickettsia and viruses (7); (b) *Parasitology*, including medical mycology (3); (c) *Immunology* (1); and (d) *Epidemiology and Fundamentals of Preventive Medicine and Public Health* (2)—required of Pharmacy majors—Tues, 8:00 A.M. and Thurs., 9:00 A.M.
- 219-20 *Advanced Microbiology* Griffin and Staff
Special study of advanced methods and current problems in microbiology for suitably qualified students specializing in microbiology. Prerequisite: Bacteriology 112 or 209, Chemistry 151-52 or the equivalent. Time and credits to be arranged.
- 295-96 *Research in Bacteriology* The Staff
Time and credits to be arranged.
- 299-300 *Thesis (3-3)* The Staff
- 305-6 *Staff Seminar (1-1)* The Staff
Bi-weekly throughout the year.
- 401-2 *Public Health Practice (1-1)* Beachley
Study of public health practice at national, state, city, and county levels. Public and private agencies. Sat., 10:00 A.M.
- 404 *Industrial Hygiene (1)* Sayers
For senior medical students and qualified graduate students. Lecture course dealing with the problems of health maintenance and disease prevention and cure as affected by industry.

BIOCHEMISTRY

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry, Executive Officer*
 *Arnold Kent Balls, Ph.D., *Adjunct Professor of Enzymology*
 William Henry Sebrell, Jr., M.D., *Professorial Lecturer on Nutrition*
 George Washington Irving, Jr., Ph.D., *Professorial Lecturer on Proteins*
 Carleton Raymond Treadwell, Ph.D., *Associate Professor of Biochemistry*

Mary Barbara Mills, M.S., *Instructor in Biochemistry*
 Norman Philip Goldstein, A.M., M.D., *Instructor in Biochemistry*
 Charlotte Mooar Damron, M.S., *Teaching Fellow in Biochemistry*
 Eugene Worthington Rice, B.S., *Sanders Fellow in Biochemistry*
 Benjamin Williams Smith, B.S., *Sanders Fellow in Biochemistry*

- 113-14 Biochemistry** Roe and Staff
 Physiological and clinical chemistry for the first-year medical student.
 Two lectures and two three-hour laboratory periods a week.
- 221-22 Biochemistry (4-4)** Treadwell
 A lecture and laboratory course for nonmedical students. Prerequisite: Chemistry 22 and 152. Material fee, \$12 a term. Tues. and Thurs., 9:00 to 12:00 A.M. and 1:00 to 2:00 P.M.
- 224 Biochemistry of the Enzymes** Balls
 Lecture course dealing with the biochemistry of the enzymes and enzyme reactions. Prerequisite: Biochemistry 113 or 221. (Not offered in 1949-50.)
- 225 Biochemical Preparations** The Staff
 Material fee, \$10. Time and credits to be arranged.
- 226 Biochemical Laboratory Methods** The Staff
 Material fee, \$12. Time and credits to be arranged.
- 227-28 Biochemistry Seminar (1-1)** Roe
 The current literature in the field of biochemistry, mainly for graduate students, but open to a limited number of specially qualified medical students. Fri., 4:45 P.M.
- 231 Proteins and Amino Acids (1)** Irving
 A lecture course. Prerequisite: Biochemistry 114 or 222. Mon., 4:45 P.M.
- 295-96 Research in Biochemistry** Roe, Treadwell
 Time and credits to be arranged.
- 299-300 Thesis (3-3)** Roe
- 404 Applied Nutrition (1)** Sebrell
 For senior medical students and graduate students. Lecture course upon dietary requirements, deficiency diseases, and therapeutic diets. Prerequisite: Biochemistry 114 or 222. Sat. 10:00 A.M.

* On leave of absence 1949-50.

DERMATOLOGY AND SYPHILOLOGY

Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology, Executive Officer*

George William Creswell, A.B., M.D., *Assistant Clinical Professor of Dermatology and Syphilology*

Hayden Kirby-Smith, B.S., M.D., *Assistant Clinical Professor of Dermatology and Syphilology*

Theodore Claremont Chen Fong, M.D., *Associate in Dermatology and Syphilology*

James Quincy Gant, Jr., M.S., M.D., *Associate in Dermatology and Syphilology*

Wendell Melvin Willett, M.D., *Clinical Instructor in Dermatology and Syphilology*

313-14 *Dermatology and Syphilology* The Staff
Lectures on diseases of the skin and syphilis. One hour a week.

316 *Neurosyphilis* Fong
Lectures, clinical demonstrations, and practical diagnostic and therapeutic procedures. One hour a week for eight weeks.

317-18 *Clinic* The Staff
Case demonstrations, diagnosis, and treatment of skin diseases and syphilis. Three hours a week. Gallinger Hospital.

407-8 *Clinic* The Staff
Dermatology and syphilology in infants and children. Childrens Hospital. Two hours a week.

409-10 *Clinic* The Staff
Clinical demonstration, diseases of the skin. Two hours a week. Emergency Hospital.

411-12 *Clinic* The Staff
Clinical demonstrations, diseases of the skin, and diagnosis and therapy of syphilis. Two hours a week. University Hospital.

413-14 *Clinic* Creswell
Diagnosis, laboratory procedures, and treatment of syphilis. Two hours a week. Southwest Health Center.

MEDICINE

Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*
Thomas McPherson Brown, A.B., M.D., *Professor of Medicine, Executive Officer*

Coursen Baxter Conklin, A.M., M.D., *Clinical Professor of Medicine*
Charles Robert Lee Halley, A.B., M.D., *Clinical Professor of Medicine*
Paul Frederick Dickens, M.D., *Clinical Professor of Medicine*
Harry Filmore Dowling, A.B., M.D., *Clinical Professor of Medicine*
Benjamin Frank Miller, B.S., Chem. Eng., M.D., *Clinical Professor of Medicine*

Sol Katz, B.S., M.D., *Adjunct Clinical Professor of Medicine*
Harry Eagle, A.B., M.D., *Adjunct Clinical Professor of Medicine*
Louis Katz Alpert, B.S., M.D., *Adjunct Clinical Professor of Medicine*
Joseph Francis Sadusk, Jr., A.B., M.D., *Adjunct Clinical Professor of Medicine*

Joseph Francis Fazekas, B.S., M.D., *Adjunct Clinical Professor of Medicine*
Clark Harvey Yeager, M.D., Dr.P.H., *Professorial Lecturer on Tropical Medicine*

Norman Hawkins Topping, A.B., M.D., *Professorial Lecturer on Rickettsial Diseases*

Monroe James Romansky, A.B., M.D., *Associate Professor of Medicine*
Clayton Bernard Ethridge, M.D., *Associate Clinical Professor of Medicine*

Walter Kendall Myers, B.S., M.D., *Assistant Clinical Professor of Medicine*

John Alton Reed, A.B., M.D., *Assistant Clinical Professor of Medicine*
Theodore Judson Abernethy, B.S., M.D., *Assistant Clinical Professor of Medicine*

William Travis Gibb, A.B., M.D., *Assistant Clinical Professor of Medicine*

Peter Diacoumis Comanduras, M.D., M.S., *Assistant Clinical Professor of Medicine*

John McCallum Evans, A.B., M.D., *Assistant Clinical Professor of Medicine*

Roy Hertz, Ph.D., M.D., *Assistant Clinical Professor of Medicine*
Carl Leonard Larson, B.S., M.D., *Assistant Clinical Professor of Medicine*

Carl Calvin Dauer, A.B., M.D., M.P.H., *Assistant Clinical Professor of Medicine*

Samuel Ross Taggart, M.D., *Assistant Clinical Professor of Medicine*
Alfred Henry Lawton, M.D., Ph.D., *Assistant Clinical Professor of Medicine*

- John Minor, A.B., M.D., *Associate in Medicine*
 Watson William Eldridge, Jr., M.D., *Associate in Medicine*
 Maurice Protas, A.B., M.D., *Associate in Medicine*
 Pearl Holly, M.S., M.D., *Associate in Medicine*
 Benjamin Manchester, M.D., *Associate in Medicine*
 Irving Wolfe Winik, M.D., *Associate in Medicine*
 Lawrence Jay Thomas, B.S., M.D., *Associate in Medicine*
 James Joseph Feffer, A.B., M.D., *Associate in Medicine*
 Lawrence Elias Putnam, A.B., M.D., *Associate in Medicine*
 John Watkins Trenis, A.B., M.D., *Associate in Medicine*
 Bernard Lauriston Hardin, Jr., A.B., M.D., *Associate in Medicine*
 Clarence Richard Hartman, A.B., M.D., *Associate in Medicine*
 Andrew Gabriel Prandoni, B.S., M.D., *Associate in Medicine*
 Charles William Ordman, A.B., M.D., *Associate in Medicine*
 Ruth Hechler Wichelhausen, M.D., *Associate in Medicine*
 Eugene Pitcher Cronkite, A.B., M.D., *Associate in Medicine*
 Albert David Kistin, A.M., M.D., *Associate in Medicine*
 Ben Calloway Jones, Jr., M.D., *Associate in Medicine*
 Richard Bernard Castell, A.B., M.D., *Clinical Instructor in Medicine*
 Luther Henry Snyder, A.B., M.D., *Clinical Instructor in Medicine*
 Emil Herbert Bauersfeld, A.B., M.D., *Clinical Instructor in Medicine*
 John Bayne Marbury, M.D., *Clinical Instructor in Medicine*
 Louis Ross, M.D., *Clinical Instructor in Medicine*
 James Theodore Burns, M.D., *Clinical Instructor in Medicine*
 Frederic Dunbar Chapman, A.B., M.D., C.M., *Clinical Instructor in Medicine*
 Irvin Kerlan, B.S., M.D., C.P.H., *Clinical Instructor in Medicine*
 Virginia Patterson Beelar, A.B., M.D., *Clinical Instructor in Medicine*
 Myer Harold Stolar, B.S., M.D., *Clinical Instructor in Medicine*
 Alfred Brigulio, M.D., *Clinical Instructor in Medicine*
 Lester Sylvan Blumenthal, A.B., M.D., M.S. in Med., *Clinical Instructor in Medicine*
 Samuel Jacob Nathan Sugar, Phar.G., M.D., *Clinical Instructor in Medicine*
 Joseph Ney, B.S., M.D., *Clinical Instructor in Medicine*
 Henry Dunlop Ecker, B.S., M.D., *Clinical Instructor in Medicine*
 John Wilmer Latimer, Jr., M.D., *Clinical Instructor in Medicine*
 Mark Hummer Lepper, M.D., *Clinical Instructor in Medicine*
 Charles Wilson Jones, A.B., M.D., *Clinical Instructor in Medicine*
 Halla Brown, M.D., *Clinical Instructor in Medicine*
 Frank Solomon Bacon, B.S., M.D., *Clinical Instructor in Medicine*
 Joseph Beinstein, A.B., M.D., *Clinical Instructor in Medicine*
 DeWitt Elmer DeLawter, M.D., *Clinical Instructor in Medicine*
 William Frank, M.D., *Clinical Instructor in Medicine*

Camp Stanley Huntington, M.D., *Clinical Instructor in Medicine*
 Stanley William Kirstein, M.D., *Clinical Instructor in Medicine*
 James Walling Long, M.D., *Clinical Instructor in Medicine*
 Ralph Bretney Miller, M.D., *Clinical Instructor in Medicine*
 Alvin Victor Rouzer, B.S., M.D., *Clinical Instructor in Medicine*
 Raymond Schwartz, A.B., M.D., *Clinical Instructor in Medicine*
 Gordon Murdoch Smith, A.B., M.D., *Clinical Instructor in Medicine*
 Robert George Taylor, M.D., *Clinical Instructor in Medicine*
 Charles Waters Thompson, M.D., *Clinical Instructor in Medicine*
 Thomas Stone Sappington, A.B., M.D., *Clinical Instructor in Medicine*
 Maurice Franks, M.D., *Clinical Instructor in Medicine*
 Charles Edward Law, M.D., *Clinical Instructor in Medicine*
 Israel Kessler, M.S., M.D., *Clinical Instructor in Medicine*
 Jack Jacob Rheingold, A.B., M.D., *Clinical Instructor in Medicine*
 Francis James Murray, A.B., M.D., *Clinical Instructor in Medicine*
 Robert Lee Brickhouse, B.S., M.D., *Clinical Instructor in Medicine*
 Morris Hirsh Rosenberg, A.B., M.D., *Clinical Instructor in Medicine*
 Hyman Joseph Zimmerman, A.B., M.D., *Clinical Instructor in Medicine*
 Maurice Mensh, M.D., *Clinical Instructor in Medicine*
 Robert Norwood Coale, B.S., M.D., *Clinical Instructor in Medicine*
 Harry Clark Bates, B.S., M.D., *Clinical Instructor in Medicine*
 James Francis Ambury, B.S., M.D., *Clinical Instructor in Medicine*
 William Otis Bailey, Jr., M.D., *Clinical Instructor in Medicine*
 Edwin Pearson Parker III, B.S., M.D., *Clinical Instructor in Medicine*
 Thomas Joseph Pekin, M.D., *Clinical Instructor in Medicine*
 Andrew Joseph Brennan, M.D., *Clinical Instructor in Medicine*
 Eugene Solomon Gladsden, B.S., M.D., *Clinical Instructor in Medicine*
 Jeanne Bateman, A.B., M.D., *Clinical Instructor in Medicine*
 James Irving Boyd, M.D., *Lecturer in Medicine*
 Ruth Benedict, A.B., M.D., *Teaching Fellow in Cardiology*
 Eston Robert Caldwell, B.S., M.D., *Research Fellow in Medicine*
 Jack Kleh, A.B., M.D., *Research Fellow in Cardiology*
 Jason Geiger, A.B., M.D., *Research Fellow in Pulmonary Diseases*
 Ezra Martin Greenspan, A.B., M.D., *Research Fellow in Medicine*
 Joseph Augustine Connor, Jr., M.D., *Teaching Fellow in Medicine*
 Richard Lee Whelton, B.S., M.D., *Teaching Fellow in Medicine*
 James Packard Mann, M.D., *Teaching Fellow in Pulmonary Diseases*

132 *History of Medicine*
 One hour a week.

The Staff

236 *Clinical Microscopy*

Conferences and studies in the clinical application of laboratory examinations of blood, body fluids, exudates, and excreta. Three hours a week.

The Staff

- 241-42 *Physical Diagnosis* The Staff
Demonstration and practical application of the principles of physical diagnosis and the interpretation of findings in the normal and abnormal subject. Six hours a week.
- 243-44 *Introduction to Medicine* The Staff
Lectures covering the principles of internal medicine preparatory to clinical studies and training on the inpatient and outpatient services. One hour a week, fall term; four hours a week, winter term.
- 320 *Medical Jurisprudence* The Staff
Lectures on the legal and ethical rights of physicians, and on the legal problems with which the physician comes in contact. One hour a week for sixteen weeks.
- 325-26 *Clinical Clerkship* The Staff
Training with bed patients under individual instruction designed to develop ability in examination of patients and case taking as well as practice in clinical microscopy. Eight weeks.
- 327-28 *Clinical Pathological Conferences I* Brown, Choisser
Required in the third year. Correlation of clinical and post-mortem findings: detailed case description from the clinical point of view followed by demonstrations of post-mortem findings. One hour a week.
- 339-40 *Therapeutic Conferences I* Staff of Medicine and Pharmacology
Conferences designed to emphasize the application of pharmacological principles to the problems of clinical medicine. One hour a week.
- 349-50 *Medical Conferences* The Staff
Three hours a week.
- 421-22 *Outpatient Clinics* The Staff
Individual case studies under personal supervision of the Staff. Daily clinics on current medical problems and seminars stressing physiological aspects of diseases. Individual examinations and instruction in medical specialties. University and Emergency Hospitals.
- 427-28 *Clinical Pathological Conferences II* Brown, Choisser
Required in the fourth year. Continuation of 327-28. One hour a week, in rotation.
- 439-40 *Therapeutic Conferences II* Staff of Medicine and Pharmacology
Continuation of 339-40. One hour a week.

MILITARY SCIENCE AND TACTICS*

Vernon David Pettit, B.S., M.D., Lieutenant Colonel, Medical Corps,
United States Army, *Professor of Military Science and Tactics,*
Executive Officer

129-30 *Basic Course, Senior Division ROTC* Pettit
(First Year)

World situation, national defense, and ROTC (3); military obligations of citizenship (1); organization of the Army (10); organization of the Medical Department (5); courtesies and customs of the Service (2); military law (4); military training (2); medical military history (1); military administration (3); examination and discussion (1).

247-48 *Basic Course, Senior Division ROTC* Pettit
(Second Year)

World situation, national defense, and ROTC (3); organization and employment of medical service of field army (5); duties of the surgeon (3); medical service, zone of communications (3); medical service, zone of interior (3); medical supply (3); introduction to map reading (4); health and national security (2); first aid, bandaging, and splinting (5); examination and discussion (1).

329-30 *Advanced Course, Senior Division ROTC ‡* Pettit
(First Year)

World situation, national defense, and ROTC (3); military preventive medicine (20); field medicine and surgery (6); army graduate professional education program (1); army career (1); examination and discussion (1).

429-30 *Advanced Course, Senior Division ROTC ‡* Pettit
(Second Year)

World situation, national defense, and ROTC (3); military preventive medicine (11); medical aspects of atomic warfare (2); medical aspects of chemical warfare (2); military psychiatry (5); personnel management (3); military medical research development (3); organized reserve corps (1); mobilization (1); examination and discussion (1).

* Figures in parenthesis indicate the number of hours devoted to the subject.

‡ Students in the advanced course are selected from those who satisfactorily complete the basic course, or have one year active federal service.

NEUROLOGY AND NEUROLOGICAL SURGERY

Walter Freeman, Ph.D., M.D., *Professor of Neurology, Executive Officer*

James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*

Hyman David Shapiro, M.D., *Assistant Clinical Professor of Neurology*

Robert Henry Groh, B.S., M.D., *Associate in Neurology*

Paul Chodoff, A.B., M.D., *Associate in Neurology*

James Peter Murphy, B.S., M.D., *Associate in Neurological Surgery*

George Davis Weickhardt, M.D., *Clinical Instructor in Neurology*

Hugo Victor Rizzoli, A.B., M.D., *Clinical Instructor in Neurological Surgery*

Jonathan Marshall Williams, M.D., *Clinical Instructor in Neurological Surgery*

Oscar Legault, A.B., M.D., *Clinical Instructor in Neurology*

Laszlo Nandor Tauber, M.Ch., M.D., *Teaching Fellow in Neurological Surgery*

Luis Guildbaldo Murillo, B.S., M.D., *Fellow in Neurology*

249-50 *Neurology (elective)* Freeman

Methods of study of the nervous system. Gross and microscopic preparations, embryology, comparative anatomy, stimulation and extirpation, human pathology, etc. Laboratory demonstrations. One hour a week.

331 *Neurology* Shapiro and Staff

Systematic lectures with lantern slides, illustrating the chief neurologic syndromes and their anatomic bases. One hour a week.

333-34 *Neurology and Neurological Surgery, Clinical Clerkship* Freeman and Staff

Instruction in history, physical examination, ordinary clinical procedures. Attendance at neurological operations. Gallinger Hospital. Four students in rotation, two weeks.

335-36 *Neurological Conference* Freeman and Staff

Clinical conference one afternoon a week followed by clinicopathologic study of specimens from current necropsies. Gallinger Hospital. Two and one-half hours a week.

431-32 *Neurology Clinic* Freeman and Staff

Neurological outpatient clinic. Consultation of staff on ambulatory cases, demonstration of diagnostic procedures, disposition of neuropsychiatric cases. Discussion of neuropathologic material. University Hospital. Two hours a week.

433-34 *Neurosurgery* Watts and Staff

Clinical demonstrations in surgery of the brain, spinal cord, and peripheral nerves. Emphasis is laid upon fundamentals and upon the possibilities of surgery in the relief of symptoms. University and Gallinger hospitals. Section of four students, two hours a week.

OBSTETRICS AND GYNECOLOGY

- John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology, Executive Officer*
- Radford Brown, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Jacob Kotz, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Henry Lauran Darner, A.B., M.D., *Clinical Professor of Obstetrics and Gynecology*
- Herbert Percy Ramsey, A.B., M.D., *Clinical Professor of Obstetrics and Gynecology*
- Robert Barter, M.D., *Adjunct Clinical Professor of Obstetrics and Gynecology*
- George Nordlinger, A.B., M.D., *Associate in Obstetrics and Gynecology*
- Laurence Lee Cockerille, M.D., *Associate in Obstetrics and Gynecology*
- Clayton Howard Hixson, M.D., *Associate in Obstetrics and Gynecology*
- Henry John Russell McNitt, B.S. in Med., M.D., *Associate in Obstetrics and Gynecology*
- Samuel Mayer Dodek, A.M., M.D., *Associate in Obstetrics and Gynecology*
- Russel Jon Jansen, M.D., *Associate in Obstetrics and Gynecology*
- Howard Pope Parker, A.B., M.D., *Associate in Obstetrics and Gynecology*
- Roger O'Donnell, Jr., A.B., M.D., *Associate in Obstetrics and Gynecology*
- James Albert Dusbabek, M.D., *Associate in Obstetrics and Gynecology*
- Barton Winters Richwine, M.D., *Associate in Obstetrics and Gynecology*
- Clarence Kendall Fraser, Ph.B., M.D., *Associate in Obstetrics and Gynecology*
- Neel Jack Price, B.S., M.D., *Instructor in Obstetrics and Gynecology*
- Katherine Elizabeth Parker, A.M., M.D., *Clinical Instructor in Obstetrics and Gynecology*
- William Dandridge Terrell, Jr., M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Samuel Hazen Shea, M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Julius Robert Epstein, M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Morton Selwyn Kaufman, A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Floyd Sterling Rogers, M.D., *Clinical Instructor in Obstetrics and Gynecology*

- Rufus Martin Roll, A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Caroline Jackson, A.M., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Jeremiah Keith Cromer, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Jed Williams Pearson, Jr., A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Thomas Miles Leonard, Ph.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 William Thurston Lady, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Albert Seymour Bright, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Shirley Sue Martin, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Ekrem Turan, M.D., *Teaching Fellow in Obstetrics and Gynecology*

54 *Normal Obstetrics*

Fraser, Dodek

Lectures and demonstrations on the physiology and management of normal pregnancy. One hour a week.

337-38 *Abnormal Obstetrics*

Nordlinger, Parks

Lectures and demonstrations on the complications of pregnancy. One hour a week.

343 *Gynecology*

Brown

Lectures and demonstrations on the principles of gynecology. One hour a week.

344 *Marriage and Marital Problems*

Ramsey, Nordlinger

A course of instruction in marriage counseling and planned parenthood. One hour a week.

348 *Female Endocrinology and Operative Gynecology*

Kotz, Darner

Lectures on the physiology and pathology of the female endocrine system and on principles of gynecological surgery. One hour a week.

401-2 *Manikin Demonstrations*

Lady

The mechanism of labor and various types of operative delivery demonstrated to sections of the class in weekly sessions.

441-42 *Clinical Obstetrics*

Parks and Staff

Senior students participate in prenatal and postnatal clinic care, make postpartum home calls; observe the course of labor and deliver patients under supervision; attend biweekly departmental conferences and daily ward rounds in the University, Gallinger, and Garfield hospitals.

443-44 *Clinical Gynecology*

Parks and Staff

Senior students observe and participate in the gynecological work of clinics, operating rooms, and gynecological services of the University and Gallinger hospitals.

OPHTHALMOLOGY

- Ernest Alfred Watson Sheppard, M.D., C.M., *Professor of Ophthalmology, Executive Officer*
Ronald Armore Cox, A.B., M.D., *Assistant Clinical Professor of Ophthalmology*
Frank Duncan Costenbader, B.S., M.D., *Assistant Clinical Professor of Ophthalmology*
Richard Wallace Wilkinson, M.S., M.D., *Associate in Ophthalmology*
Sterling Bockoven, M.D., *Associate in Ophthalmology*
Walter Joseph Romejko, M.D., *Clinical Instructor in Ophthalmology*
Carmon Robert Naples, B.S., M.D., *Clinical Instructor in Ophthalmology*
Micollus Noel Stow, M.D., D.M.S., *Clinical Instructor in Ophthalmology*
James Spencer Dryden, M.D., *Clinical Instructor in Ophthalmology*
William Paxson Chalfant, Jr., M.D., *Clinical Instructor in Ophthalmology*
William Joseph Graham Davis, A.B., M.D., *Clinical Instructor in Ophthalmology*
William Henry Hanna, A.B., M.D., *Clinical Instructor in Ophthalmology*

351-52 *Ophthalmology*

The Staff

A lecture course presenting the principles of ophthalmology, with special reference to topics of importance to the general practitioner. One hour a week for sixteen weeks.

447 *Clinic*

The Staff

Intensive training in diseases of the eye: etiology, diagnosis, and treatment in their application to clinical cases. University Hospital. Three hours twice a week.

OTO-RHINO-LARYNGOLOGY

Daniel Bruce Moffett, A.B., M.D., *Professor of Oto-rhino-laryngology, Executive Officer*

William Herndon Jenkins, M.D., *Clinical Professor of Oto-rhino-laryngology*

Leroy Lee Sawyer, A.B., M.D., *Assistant Clinical Professor of Oto-rhino-laryngology*

David Davis, A.B., M.D., *Associate in Oto-rhino-laryngology*

Aubrey David Fischer, M.D., *Associate in Oto-rhino-laryngology*

Joel Norton Novick, M.S., M.D., *Clinical Instructor in Oto-rhino-laryngology*

John Gordon Bell, M.D., *Clinical Instructor in Oto-rhino-laryngology*

Catharine Birch, A.B., M.D., *Clinical Instructor in Oto-rhino-laryngology*

Homer King Vann, A.B., M.D., *Clinical Instructor in Oto-rhino-laryngology*

James Jerry McFarland, Jr., B.S., M.D., *Clinical Instructor in Oto-rhino-laryngology*

451 *Oto-rhino-laryngology* Moffett, Jenkins
Lectures and demonstrations on anatomy, physiology, and diseases of the ear, nose, and throat. One hour a week.

454 *Bronchoscopy* Davis
A series of lectures on the fundamental principles and the use of instruments, including both the bronchoscope and esophagoscope. One hour a week for two weeks.

456 *Clinic* The Staff
Practical clinical instruction in the diagnosis and treatment of diseases of the ear, nose, and throat. University Hospital. One and one-half hours twice a week.

PATHOLOGY

Roger Morrison Choisser, B.S., M.D., *Professor of Pathology, Executive Officer*
 Thomas Martin Peery, A.B., M.D., *Associate Professor of Pathology*
 Carl Hunt Wells, B.S., M.D., *Associate Professor of Pathology*
 Robert Pelley Hill, B.S., M.D., *Assistant Professor of Pathology*
 William John Schewe, A.B., B.S. in Med., M.D., *Instructor in Pathology*
 Robert Rice Montgomery, A.B., M.D., *Teaching Fellow in Pathology*
 Frederick Shillinger, B.S., M.D., *Teaching Fellow in Pathology*
 Max Stephen Millar, M.D., *Teaching Fellow in Pathology*

SEMINAR LECTURERS

Elson Bowman Helwig, B.S., M.D., *Professorial Lecturer in Pathology*
 Hans Frank Smetana, M.D., *Professorial Lecturer in Pathology*
 Henry Rappaport, M.D., *Professorial Lecturer in Pathology*
 James Earle Ash, Jr., M.D., *Professorial Lecturer in Pathology*

- 259-60 *Pathology* Choisser and Staff
 Malformations, inflammations, degenerations, and neoplasms; special pathology of the organs and specific diseases. The laboratory work consists of the gross and microscopic study of diseased tissues. Necropsies are held regularly at the University and Gallinger hospitals.
- 307 *Necropsy (elective)* The Staff
 Students assist in the performance of necropsies. Fresh gross specimens and microscopic sections from each case are presented at weekly conferences. Current literature relating to cases is reviewed and presented by the students.
- 327-28 *Clinical Pathological Conference* Choisser, Brown
 Required in the third and fourth years. Case histories are presented and discussed by members of the staff and student body; necropsy and clinical findings are compared, and gross and microscopic specimens examined. One hour a week.
- 460 *Research* Choisser
 Hours and credits to be arranged.

PEDIATRICS

Preston Alexander McLendon, B.S., M.D., *Professor of Pediatrics, Executive Officer*

Margaret Mary Nicholson, A.B., M.D., *Clinical Professor of Pediatrics*
Edward Lewis, M.D., *Clinical Professor of Pediatrics*

William Staton Anderson, A.B., M.D., *Clinical Professor of Pediatrics*
Lewis Kaigler Sweet, A.B., M.D., *Adjunct Clinical Professor of Pediatrics*

Mabel Harlakenden Grosvenor, A.B., M.D., *Assistant Clinical Professor of Pediatrics*

John Augustine Washington, A.B., B.S., M.D., *Assistant Clinical Professor of Pediatrics*

Aaron Nimetz, A.B., M.D., *Assistant Clinical Professor of Pediatrics*

Dorothy Steinle Jaeger, M.D., *Assistant Clinical Professor of Pediatrics*

George Maksim, M.D., M.S. in Ped., *Assistant Clinical Professor of Pediatrics*

Reginald Spencer Lourie, M.D., *Associate in Pediatrics*

Henry Marcus Work, A.B., M.D., *Associate in Pediatrics*

John Howell Peacock, B.S., M.D., *Clinical Instructor in Pediatrics*

Herbert Harold Diamond, M.D., *Clinical Instructor in Pediatrics*

Frederic Gerard Burke, B.S., M.D., *Clinical Instructor in Pediatrics*

Reginald Henry Mitchell, M.D., *Clinical Instructor in Pediatrics*

Maynard Irving Cohen, A.B., M.D., *Clinical Instructor in Pediatrics*

William Allen Howard, A.B., M.D., *Clinical Instructor in Pediatrics*

Mary Katherine Laurence Sartwell, A.B., M.D., *Clinical Instructor in Pediatrics*

Sidney Ross, M.D., *Clinical Instructor in Pediatrics*

Charles Frederick Stiegler, A.B., M.D., *Clinical Instructor in Pediatrics*

Allan Bertram Coleman, M.D., *Teaching Fellow in Pediatrics*

Mortimer James Folston, A.B., M.D., *Teaching Fellow in Pediatrics*

Leroy Edward Hoeck, M.D., *Research Fellow in Pediatrics*

Samuel Bessman, M.D., *Fellow in Pediatrics*

255-56 *Pediatrics*

McLendon and Staff

Lectures on physiology of the newborn, development, infant nutrition, diseases of the newborn, common anomalies and system illnesses of childhood. Gallinger Municipal Hospital. One hour weekly.

357-58 *Clinical Clerkship—General Pediatrics*

Nicholson and Staff

General pediatric diseases and the newborn. Emphasis on history taking and physical examination. Daily ward rounds. Gallinger Municipal Hospital. Five students in rotation, two weeks.

- 359-60 *Clinical Clerkship—Contagious Diseases* Grosvenor and Staff
Preventive and quarantine measures. Daily ward rounds and conferences. Gallinger Municipal Hospital. Five students in rotation, two weeks.
- 361-62 *Clinical Conference* McLendon and Staff
Required in third year. Presentation and discussion of current patient problems. Gallinger Municipal Hospital. One hour weekly.
- 457-58 *Clinical Clerkship* McLendon and Staff
Full time including assignment to night and holiday admissions. Case studies on wards under direct Resident supervision. Ward rounds with Staff and Residents. Childrens Hospital. Ten students, four weeks.
- 459-60 *Outpatient Clinics* Washington and Staff
Work in Medical and Specialty clinics including surgery, allergy, X-ray, child welfare, cardiology, dermatology, neurology, and child guidance. Childrens Hospital.
- 461-62 *Clinico-pathological Conference* McLendon and Staff
Clinical and pathological discussion of recent patient history and laboratory data. Childrens Hospital.
- 463-64 *Group Conferences* McLendon and Staff
Discussion of clinical problems of diagnosis and treatment of current patients. Childrens Hospital. Twice weekly.

PHARMACOLOGY

Paul Kenneth Smith, Ph.D., *Professor of Pharmacology, Executive Officer*

Erwin Ellis Nelson, M.D., Ph.D., *Adjunct Clinical Professor of Pharmacology*

Aldo Peter Truant, A.B., *Instructor in Pharmacology*

Celia White Tabor, A.B., M.D., *Research Associate in Pharmacology*

Zelma Baker Miller, Ph.D., *Research Associate in Pharmacology*

Jean Mayer, Ph.D., *Research Associate in Pharmacology*

261 Pharmacology **The Staff**

Lectures and conferences concerning the interaction of drugs and biological systems as a basis for the rational therapy of disease. Five hours a week.

263 Pharmacology Laboratory **The Staff**

Laboratory instruction and demonstrations designed to complement the above course. Five hours a week.

265 Chemotherapy **The Staff**

Five lectures a week for three weeks. Designed for graduate students.

361-62 Pharmacological Research **The Staff**

Primarily for those properly qualified graduate and medical students seeking careers in pharmacology. Hours and credits to be arranged.

363-64 Pharmacology Seminar (I-I) **The Staff**

Recent advances in pharmacology. For those interested in pharmacological research. Two hours a week.

369-70 Clinical Pharmacology **The Staff**

Discussions of the pharmacological basis of therapeutics. One hour a week.

479-80 Special Methods in Research **The Staff**

A course to familiarize the student with advanced chemical and physiological methods employed in pharmacological investigations. Hours and credits to be arranged.

PHYSICAL MEDICINE

Charles Samuel Wise, B.S., M.D., *Associate Professor of Physical Medicine, Executive Officer*

, Associate in Physical Medicine

150 *Elements of Physical Medicine*

The Staff

Lectures and demonstrations of the various tests and measurements employed in evaluation of physical disability. Emphasis is placed on normal and abnormal peripheral nerve testing (electrodiagnosis), muscle testing, joint range and other physical disability measurements.

351-52 *Advanced Physical Medicine*

The Staff

Lectures and demonstrations concerning the various techniques, clinical applications of physical medicine, and rehabilitation to be integrated with the teaching of the associated medical and surgical specialties.

467-68 *Clinical Studies*

The Staff

Clinical teaching and demonstration at the University Hospital.

485 *Research*

The Staff

Hours to be arranged.

PHYSIOLOGY

Errett Cyril Albritton, A.B., M.D., *Professor of Physiology, Executive Officer*

Chester Elwood Leese, Ph.D., *Professor of Physiology*

Abraham Dury, Ph.D., *Assistant Professor of Physiology*

Hyman Erwin Steinman, M.D., *Teaching Fellow in Physiology*

115 Physiology (3) Leese and Staff

Lectures for academic students covering the fundamentals of physiology in its various subdivisions. Prerequisites: one year of general science or one term of a biological science. Section A: Tues., Thurs., and Sat., 9:10 A.M.; section B: Tues. and Thurs., 5:10 to 6:25 P.M.

117 Experimental Physiology (1) Dury and Staff

Laboratory exercises in the fundamentals of physiology, for academic students. Prerequisite or concurrent registration: Physiology 115 or the equivalent. Material fee, \$12. Sat., 10:10 A.M. to 1:00 P.M.

120 Physiology of Endocrine Activity (2) Albritton

The circulatory, metabolic, reproductive, growth, and other adaptations, immediate and long term, accompanying and affecting endocrine activity. May be taken for two credits with additional work. Prerequisite: Physiology 115 or the equivalent. Tues. and Thurs., 5:10 P.M.

130 The Psycho-physiology of Personality (2) Leese

Lectures on the genesis and expression of personality, with emphasis on the physiological approach. Prerequisite: Physiology 115 or the equivalent and general psychology. Tues. and Thurs., 6:10 P.M.

150 Advanced Physiology The Staff

One hundred physiological lectures and one hundred thirty laboratory hours devoted to the major divisions of the subject. For Medical Students.

159-60 Experimental Method (1-1) Albritton

Design of controlled experiments in medical or biological investigation; errors in design; criticism and judgment of evidence, and tests of the statistical significance of experimental results. Sat., 12:00 to 1:00 P.M.

169-70 Problems in Physiology Albritton and Staff

Hours and credits to be arranged.

179-80 Physiology Seminar (1-1) The Staff

Weekly throughout the year.

231 Advanced Physiology of Circulation and Respiration (2) Albritton and Staff

Lectures on blood, heart, circulation, respiration, and acid-base balance. Two hours a week, to be arranged.

- 234 *Advanced Physiology of Nutrition, Metabolism, and Excretion (2)* Dury and Staff
Lectures on nutrition, digestion, metabolism, excretion, temperature regulation, and water balance. Two hours a week, to be arranged.
- 236 *Advanced Physiology of the Endocrine Glands and Reproduction (1)* Dury and Staff
Lectures on ductless glands, hormones, humoral agents, and reproduction. One hour a week, to be arranged.
- 238 *Advanced Physiology of the Neuro-Muscular System (2)* Leese and Staff
Lectures on sensory reception, central nervous processes, somatic and visceral motor activity, and the behavior of smooth and striped muscle. Two hours a week, to be arranged.
- 240 *Advanced Experimental Physiology (3)* The Staff
Laboratory work only. Correlated with the lectures in courses 231-238. Material fee, \$25. Nine hours a week, to be arranged.
- 295-96 *Research* Albritton, Leese, and Staff
Hours and credits to be arranged.
- 299-300 *Thesis (3-3)* Albritton, Leese

PSYCHIATRY

Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry, Executive Officer*

Roscoe Willis Hall, Ph.B., M.D., *Clinical Professor of Psychiatry*

Solomon Katzenelbogen, M.D., *Clinical Professor of Psychiatry*

Addison McGuire Duval, M.D., *Clinical Professor of Psychiatry*

Sidney Berman, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Morris Kleinerman, Ch.D., M.B., *Assistant Clinical Professor of Psychiatry*

Harriet Elizabeth Twombly, A.B., M.D., *Associate in Psychiatry*

Samuel Alexander Silk, Ph.D., M.D., *Associate in Psychiatry*

Edgar Deucher Griffin, A.B., M.D., *Associate in Psychiatry*

Isabelle Kendig, Ph.D., *Associate in Psychiatry*

Henry Prather Laughlin, B.S., M.D., *Associate in Psychiatry*

Marshall deGraffenried Ruffin, B.S., M.D., *Associate in Psychiatry*

William Green Cushard, M.D., *Clinical Instructor in Psychiatry*

165 *Dynamics of Personality Development* — Berman

An orientation course in the anatomical, physiological, and psychological growth and development of personality. Consideration of characteristics of structure, function, and development of the psyche leading to normal behavior as a basis for the study of the pathological. Evaluation of interpersonal relationships. One hour a week.

178 *Psychopathology* Hall

Manifestations and understanding of various mental mechanisms and abnormal reaction-types, preceded by history of development of psychopathology and illustrated with case material. One hour a week.

266 *Psychiatry* Overholser

History, etiology, symptoms, course, and treatment of the major psychoses with emphasis on the dynamics involving the person as a whole. One hour a week.

268 *Demonstration Clinics* Silk, Twombly

Presentation of clinical cases of major mental illnesses and primary behavior disturbances, correlating with Psychiatry 266. Each student examines patients under supervision. Three hours a week. St. Elizabeths Hospital.

271 *Psychosomatic Aspects of General Medicine* Katzenelbogen

Somatic disorder, of functional origin versus organic structural disorders. The role of personality reactions in somatic disorders (illustrative cases). One hour a week.

- 324 *Psychoneurosis* Ruffin
Etiology, psychopathology, clinical aspects, and treatment of various types of psychoneuroses. One hour a week for twelve weeks. Medical Conference Room, Gallinger Hospital.
- 326 *Psychological Techniques in Psychiatric Practice* Kendig
Discussion of psychological concepts and tools available for determination of intellectual level, personality structure, functional impairment, and organic deterioration. One hour a week for four weeks. Medical Conference Room, Gallinger Hospital.
- 331-32 *Clinical Clerkship* Cushard, Griffin
Under supervision, each student conducts mental and physical examinations of patients, works up and presents his cases for discussion and conclusion. Two-week assignments by section. Gallinger Hospital.
- 431-32 *Clinical Clerkship* Duval, Kleinerman, Laughlin, Ruffin
Supervised examination, diagnosis, and treatment of ambulatory borderline cases. Conferences for discussion of cases. Clinical application of psychiatric principles to general medical practice is stressed. Three hours twice weekly, in rotation. University Hospital Out-patient Psychiatric Clinic.

RADIOLOGY

William Stanbro, M.D., *Associate Professor of Radiology, Executive Officer*

Solomon Rodney Bersack, M.D., *Associate in Radiology*

213 *Basic Radiology* The Staff
Orientation lectures in X-ray physics.

341-42 *Radiological Diagnosis* The Staff
Lectures in conjunction with the course in Physical Diagnosis.

358 *Advanced Radiological Diagnosis* The Staff
Lectures and discussions.

449 *Clinical Studies* The Staff
Students assigned in rotation on a full-time basis for a specific period to the X-ray Department.

478 *Research* The Staff
Hours to be arranged.

SURGERY

- Brian Blades, A.B., M.D., *Professor of Surgery, Executive Officer*
 Daniel LeRay Borden, A.M., M.D., *Clinical Professor of Surgery*
 Paul Stirling Putzki, M.D., *Clinical Professor of Surgery*
 Arch Lockhart Riddick, B.S., M.D., *Clinical Professor of Surgery*
 William Berry Marbury, M.D., *Clinical Professor of Surgery*
 Custis Lee Hall, M.D., *Clinical Professor of Surgery*
 John Hugh Lyons, M.S., M.D., *Clinical Professor of Surgery*
 Frank Errett Hamilton, A.B., M.D., M.S., *Adjunct Clinical Professor of Surgery*
 Paul Budd Magnuson, M.D., *Adjunct Clinical Professor of Surgery*
 John Gordon Lee, A.B., M.D., C.M., Sc.D., *Adjunct Clinical Professor of Medicine*
 Wallace Harry Graham, B.S., M.D., *Professorial Lecturer in Surgery*
 Herbert Hermann Schoenfeld, M.D., *Associate Clinical Professor of Surgery*
 William Warren Sager, M.S., M.D., *Associate Clinical Professor of Surgery*
 Benjamin Franklin Dean, Jr., M.S., M.D., *Assistant Clinical Professor of Surgery*
 Alec Horwitz, M.S., M.D., *Assistant Clinical Professor of Surgery*
 William Stanley McCune, A.B., M.D., *Assistant Clinical Professor of Surgery*
 Vincent Michael Iovine, B.S., M.D., *Assistant Clinical Professor of Surgery*
 Carl Berg, M.D., *Assistant Clinical Professor of Orthopedic Surgery*
 Calvin Trexler Klopp, A.B., M.D., *Assistant Clinical Professor of Surgery*
 Julius Salem Neviasser, A.B., M.D., *Assistant Clinical Professor of Orthopedic Surgery*
 Jerome Blaine Harrell, M.D., *Assistant Clinical Professor of Surgery*
 Leonard Theodore Peterson, A.B., B.S., M.D., *Assistant Clinical Professor of Orthopedic Surgery*
 Richard Knight Thompson, D.D.S., *Associate in Dental Surgery*
 William Ross Morris, M.D., *Associate in Surgery*
 Harold Walter Krogh, D.D.S., *Associate in Dental Surgery*
 Jacob Joseph Weinstein, B.S., Phar.G., M.D., *Associate in Surgery*
 William Carey Meloy, M.D., M.S. in Med., *Associate in Surgery*
 Edward Alexander Cafritz, M.D., *Associate in Surgery*
 Edward James Beattie, M.D., *Associate in Surgery*
 Hazen Eugene Cole, B.S., M.D., *Clinical Instructor in Surgery*

Crenshaw Douglas Briggs, B.S., M.D., *Clinical Instructor in Surgery*
 William Wiley Chase, A.B., M.D., *Clinical Instructor in Surgery*
 Arthur James Mourot, B.S., M.D., *Clinical Instructor in Surgery*
 Joseph Francis Conlon, D.D.S., *Clinical Instructor in Dental Surgery*
 Otto Anderson Engh, A.B., M.D., *Clinical Instructor in Surgery*
 Duane Case Richtmeyer, A.B., M.D., *Clinical Instructor in Surgery*
 Richard Lee Jackson, M.D., *Clinical Instructor in Surgery*
 Leon Gerber, M.D., *Clinical Instructor in Surgery*
 Walter Henry Gerwig, Jr., A.B., M.D., *Clinical Instructor in Surgery*
 Thomas Bradley, A.B., M.D., *Clinical Instructor in Surgery*
 Lloyd Burk, Jr., M.D., *Clinical Instructor in Surgery*
 Ernest Alva Gould, M.D., *Clinical Instructor in Surgery*
 Austin Bertram Rohrbaugh, Jr., M.D., *Clinical Instructor in Orthopedic Surgery*
 Howard Clemeth Pierpont, A.B., M.D., C.M., *Fellow in Surgery*

279-80 *General Surgery* Dean, Harrell

Course of lectures and recitations covering surgical diseases of the neck and chest, herniae, amputations, and pre- and post-operative treatment. One hour a week for twenty-eight weeks.

283 *Principles of Surgery* The Staff

A clinical and laboratory course covering the fundamentals of surgery, including studies in inflammation, wound healing, etc. One hour laboratory and one hour in the clinics.

371-72 *General Surgery* Richtmeyer, Riddick

Course of lectures and recitations covering surgery as applied to the neck, thorax, gastro-intestinal tract, and the bones and skeletal muscles. One hour a week.

373-74 *Ward Walks* The Staff

Well-organized group ward-rounds are made with the visiting physicians and their respective staffs in the course of their usual rounds. Gallinger Hospital.

375-76 *Surgical Clinic* Blades

Clinical teaching and demonstrations on the care of the various surgical diseases, with special emphasis on the pre- and post-operative management. Gallinger Hospital.

379-80 *Surgical Staff Conference* The Staff

Gallinger Hospital. Weekly.

381-82 *Clinical Clerkship* The Staff

The student is assigned and required to work up thoroughly the cases for diagnosis and treatment. Gallinger Hospital.

473-74 *Clinical Clerkships* The Staff

Available at the University Hospital, Walter Reed General Hospital, and Mt. Alto Hospital.

- 478 *Orthopedics* Hall
Etiology, pathology, symptomatology, and treatment of congenital and acquired diseases of the bones and joints, and the clinical instruction in treatment and in the use of appliances for the correction of deformities. One hour a week.
- 481 *General Surgery* Blades
One hour a week.
- 483-84 *Dispensary Clinic* The Staff
Dispensary instruction in the principles and practice of surgery. Instruction of small groups is given in general surgery and the specialties, including anesthesia, neurosurgery, orthopedics, proctology, and oral surgery. University and Emergency hospitals.
- 485-86 *Special Problems in Surgery* Riddick, Dean
General surgical diagnosis, with special emphasis on the diagnosis and differential diagnosis of surgical diseases and post-operative complications. One hour a week.
- 488 *Surgical Clinic* The Staff
Demonstration to the entire class of the various surgical diseases. One hour a week.
- 489 *Surgical Anatomy* Horwitz
One hour a week.
- 491-92 *Surgical Pathology* Blades, Klopp
The senior class in groups of ten may attend the meeting of the Tumor Board of the Staff of Walter Reed Hospital and the Warwick Clinic. Patients with all types of neoplasms are demonstrated and gross and microscopic studies of various neoplasms are shown. Three hours a week.
- 493-94 *Surgical Diseases of the Chest* Blades and Staff
(elective)
Patients with various diseases of the chest, including diseases of the lung, mediastinal, and esophagus are presented. The cases are followed from week to week and operative specimens and microscopic sections are demonstrated. Walter Reed Hospital. Three hours a week.

UROLOGY

Frederick A. Reuter, M.D., *Professor of Urology. Executive Officer*
Thomas Carlton Thompson, B.S., M.D., *Clinical Professor of Urology*
Gilbert Ottenberg, A.M., M.D., *Associate in Urology*
William Dabney Jarman, B.S., M.D., *Clinical Instructor in Urology*
Edward Egner Ferguson, M.D., *Clinical Instructor in Urology*
Leon Richard Culbertson, B.S., M.D., *Clinical Instructor in Urology*

395-96 Clinics

The Staff

Clinical teaching and demonstrations on the care of urological cases with special emphasis on the pre- and post-operative management. Operative clinics and clinical teaching. Gallinger Hospital.

491-92 Urology

Reuter and Staff

Lectures covering the entire field of urology including diagnosis, treatment, and morbid pathology. One hour a week.

495-96 Clinics

Reuter and Staff

Clinical demonstrations and teaching in the Outpatient Department, with special attention given to diagnostic procedures. Emergency and University hospitals. One part of each section daily.

DEGREES CONFERRED

DOCTOR OF MEDICINE

MAY 26, 1948

Ackerman, Joseph Laurence	Del.	Jacobson, Marshall H.	Va.
Archer, Benjamin Lester	Md.	A.B. 1945, The George Washington University	
Arnold, McAlpin Hill	Ga.	Jenkins, Thomas Rodgers, Jr.	Md.
A.B. 1945, The George Washington University		B.S. 1944, Franklin and Marshall College	
Ballard, Edwin Robert, Jr.	Wash.	Kennelly, John McRae, Jr.	Oreg.
A.B. 1943, Whitman College		A.B. 1945, Willamette University	
Bald, Raymond Isaac	D.C.	Kester, Beryl Conklin	D.C.
A.B. 1945, The George Washington University		Kiehler, Harry Jay	Va.
Belton, Robert Reid	Oreg.	Kimbrell, Howard Widsote	Ariz.
A.B. 1945, Willamette University		Kischreck, Joseph Thomas	Wash.
Brady, Luther Welden, Jr.	Md.	B.S. 1945, Willamette University	
A.B. 1946, The George Washington University		Knauer, William Jerome, Jr.	Fla.
Brockbank, Wells Evans	Utah	B.S. 1947, University of Florida	
Brockbank, Wallace Reed	Utah	Landell, Robert Dana	Calif.
B.S. 1944, Brigham Young University		Leaman, Thomas Leed	Pa.
Buckler, Arthur Stanley	N.J.	Lee, Robert Yoon-Sung	Hawaii
Campbell, Charles John	Pa.	A.B. 1944, Cornell University	
Clark, Homer Huse	Utah	Lucas, Jean Pitner	Miss.
B.S. 1944, Brigham Young University		A.B. 1944, B.S. 1945, University of Mississippi	
Cook, Charles Barrre	Va.	Lucas, John Clifton, Jr.	Miss.
B.S. 1946, Hampden-Sydney College		Lundy, LeRoy Fred	Wash.
Cresswell, Walter Franklin, Jr.	Miss.	B.S. 1945, University of Washington	
B.S. 1945, University of Mississippi		Marano, Matthew Joseph	N.J.
Cullina, Joseph Charles	Conn.	(With distinction)	
A.B. 1944, Catholic University of America		A.B. 1945, Columbia University	
Daines, Newel George, Jr.	Utah	McFall, Creed Flannery, Jr.	D.C.
Dawley, Gordon Wallace, Jr.	Md.	A.B. 1945, The George Washington University	
A.B. 1946, Dartmouth College		Milan-Ponce, Ramon	Puerto Rico
Daly, Richard Francis	N.Y.	Miller, Frank Nelson, Jr.	D.C.
Dietler, Patrick Chester, Jr.	Calif.	(With distinction)	
Doddy, Thomas Edward	Calif.	B.S. 1945, The George Washington University	
A.B. 1945, Stanford University		Nelson, Bertle	D.C.
Farly, Joseph Howard, Jr.	Va.	A.B. 1945, The George Washington University	
Fincher, Carl Loy	Calif.	Nuttall, Robert Bostick	N.Y.
A.B. 1946, Stanford University		Ostrow, Bernard Howard	Md.
Fisher, Claude Gordon	Wash.	(With distinction)	
Fish, Victor Henry	D.C.	A.B. 1944, Miami University	
Evans, Charles Dudley, Jr.	W.Va.	Peery, James Brown	S.C.
B.S. 1945, Mount Union College		Phisckett, Edmund Robert	D.C.
Fogarty, Thomas Patrick	D.C.	B.S. 1944, College of William and Mary	
A.B. 1945, The George Washington University		Post, Lawrence A.	Wis.
Forbes, Peter Ray	Calif.	B.S. 1947, University of Wisconsin	
A.B. 1945, The George Washington University		Prichard, John Elmer	D.C.
Glew, Donald Henry, Jr.	D.C.	Quigley, Thomas Albert, Jr.	Miss.
B.S. 1945, Yale University		A.B. 1945, University of Mississippi	
Glover, Sarah Elizabeth	Va.	Rohn, Robert	Calif.
Goad, Frederick Lyle	Ohio	A.B. 1945, Fresno State College	
A.B. 1944, Oberlin College		Rose, Harold DeFries	Minn.
Halliday, William Ross, Jr.	D.C.	B.S. 1946, University of South Dakota	
A.B. 1946, Swarthmore College		St. John, Nicholas Eugene	Conn.
Hartwell, Ernest Goodman	Va.	Ph.B. 1931, Yale University	
A.B. 1946, The George Washington University		J.D. 1935, New York University	
Harrison, Beccard Arnold	D.C.	Sánchez-Meana, Luis F.	Puerto Rico
Huleman, Richard Worth	N.J.	B.S. 1945, University of Puerto Rico	
A.B. 1945, Antioch College			
Hollister, James Kleiser, Jr.	Calif.		

Segal, Jack Phillip (With distinction)	D.C.	Thaw, Benjamin Dows Matura 1941, Freies Gymnasium, Zurich, Switzerland	Pa.
Shanahan, Kathleen Eva B.S. 1941, University of Maryland	Md.	Thomas, John Benton	Del.
Soyster, Eliza Shumaker (With distinction)	D.C.	A.B. 1947, LaFayette College	Utah
A.B. 1944, Smith College		Thomas, Talmage Maiben	
Soyster, Peter	Calif.	A.B. 1942, Brigham Young University	Calif.
Speaker, Richard B.	D.C.	Throckmorton, Neville Inskeep, Jr.	Wash.
A.B. 1945, The George Washington University		Warner, Glenn Allyn	N.Y.
Taylor, Clayton B.	Calif.	Waxberg, Joseph David	Ga.
		Weber, Charles John, Jr.	Pa.
		Whitmoyer, Robert Ellwood	Calif.
		Woo, Joseph Clarence, Jr.	

STUDENTS REGISTERED IN THE SCHOOL OF MEDICINE

1948-49

A			
Abraham, Abe Samuel (III)	Calif.	Bowler, John Andrew, Jr. (II)	D.C.
B.S. 1938, Westminster College		B.S. 1948, The George Washington University	
Araujo-Vidal, Juan (II)	Puerto Rico	Boyd, Thompson Harnes (IV)	Ill.
B.S. 1940, University of Puerto Rico		B.S. 1946, University of Oklahoma	
Atchison, Joseph Lave (IV)	Va.	Boyer, Delia White (III)	D.C.
Avery, John Lawrence (III)	D.C.	Bradley, John Gwaver (II)	Nev.
B.S. 1937, University of Maryland		Brady, Neal Caldwell (II)	Calif.
M.S. 1939, The George Washington University		B.S. 1947, Western Reserve University	
Aye, Ralph Claxton (III)	Va.	Briener, Edgar Newlon, Jr. (II)	Md.
M.S. 1941, Northwestern University		Breeding, Robert Burton (II)	Va.
B		Brennan, Robert James (I)	Va.
Baird, Glenn Dean (IV)	D.C.	Brewer, Robert George (I)	D.C.
B.S. 1944, University of Oregon		A.B. 1948, Hamilton College	
Ballard, Dorothy Anne (II)	Wash.	Bristow, John Wesley (III)	Calif.
A.B. 1944, Whitman College		Broadstreet, Henry Thomas, Jr. (III)	Fla.
Band, Philip Theodore (IV)	D.C.	B.S. 1945, University of Florida	
A.B. 1945, The George Washington University		Brooks, Harrison Morton, Jr. (III)	N.Y.
Barclay, Julius Jackson (III)	N.C.	B.S. 1948, Wheaton College, Ill.	
Barclay, Verena Young (III)	N.C.	Brownson, Robert Henry (I)	Va.
B.S. 1948, University of Cincinnati		B.S. 1948, John Carroll University	
M.S. 1945, University of Chicago		Bruce, Clayton Roy (III)	D.C.
Barla, Timothy George (III)	N.M.	B.S. 1946, University of Pittsburgh	
Barnett, Jeanne Frances (II)	D.C.	Bruce, James Crawford (II)	D.C.
B.S. 1947, Pennsylvania State College		Burns, James Patrick, Jr. (IV)	D.C.
Barnett, Helen McConnell (III)	Va.	C	
A.B. 1947, The George Washington University		Carnes, Raymond Eugene (III)	Md.
Barnett, Robert Alexander (I)	D.C.	A.B. 1947, The George Washington University	
Barr, Joseph Frederick (II)	N.J.	Carr, George Lafayette (I)	Ga.
Barrison, William John, Jr. (II)	Pa.	Chapman, James Elston (IV)	D.C.
B.S. 1949, Pennsylvania State Teachers College, East Stroudsburg		Clare, Joe Edward (I)	Ind.
Beatty, Harry Barton (II)	D.C.	B.S. 1948, Butler University	
A.B. 1949, The George Washington University		Clarkston, Philip (I)	Mich.
Belamy, Bruce Ben (I)	Va.	B.S. 1942, University of Michigan	
Bergstrom, Roger Werner (I)	Md.	M.S. 1948, The George Washington University	
Berkow, Morton Donald (IV)	D.C.	Cliff, Leighton Eggertsen (IV)	D.C.
B.S. 1946, Franklin and Marshall College		Cohen, George Joel (III)	D.C.
Berrabe Pinda, Rafael Antonio (I)	Puerto Rico	Cohen, June Rae (IV)	D.C.
Berry, Robert Hahn (II)	Calif.	B.S. 1945, The George Washington University	
Bessman, Alice Newman (IV)	N.J.	Cole, Fenwick Earl (I)	D.C.
A.B. 1943, Smith College		Cole, Ralph John (II)	Pa.
Birder, Samuel Solomon (IV)	Pa.	A.B. 1948, The George Washington University	
A.B. 1945, Marietta College		Conant, Audrey Marie (III)	D.C.
Blair, Thomas Calvin (II)	D.C.	A.B. 1945, Trinity College	
B.S. 1947, University of Michigan		Conant, Joseph Daniel (III)	D.C.
Blie, John Frederick (II)	D.C.	Conzelmann, Gaylord Maurice (II)	Calif.
B.S. 1942, North Carolina State College		Cooper, Charles David (II)	D.C.
Boteler, Marcia (IV)	D.C.	A.B. 1947, The George Washington University	
A.B. 1945, The George Washington University		Cooper, William Hurlbert (IV)	Ohio
Bowen, Thales, Jr. (I)	D.C.	A.B. 1949, Western Reserve University	
		Cooperman, Bernard Robert (IV)	D.C.
		A.B. 1945, The George Washington University	

Corrado, Michael Anthony (I)	D.C.	Fisher, James William (I)	S.C.
Cotwin, Leonard Joel (I)	N.J.	B.S. 1947, University of South Carolina	
B.S. 1947, Rutgers University	D.C.	Foor, Milton Arlo (I)	Mont.
Cooler, McKimney Phipps (II)	Iowa	A.B. 1947, University of Southern California	
Coultrip, Raymond Laverne, Jr. (I)	Va.	Foster, Robert Russell (IV)	Ohio
Crisp, William Earl (IV)	Md.	Funt, Tobias Roger (III)	N.Y.
Crowell, Jack (II)		A.B. 1938, University of Missouri	
B.S. 1947, The George Washington University	Wis.		
Curtis, James LeRoy (IV)		G	
D		Gargano, Fred Patrick (I)	N.J.
Dalton, Charles Edward (III)	Va.	B.S. 1947, The George Washington University	
Davis, Thomas McCollan (I)	D.C.	Garnett, James Harper Poor (III)	D.C.
DeLashmitt, Robert Eugene (IV)	Ohio	A.B. 1946, University of Virginia	Calif.
DeWitt, James Garwin (II)	Va.	Gates, John William (II)	Ohio
B.S. 1943, Mount Union College	Ala.	George, Harry Clair (III)	
DeWitt, William Bradley (I)		B.S. 1944, Mount Union College	Ohio
A.B. 1948, Howard College	N.Y.	Gerbie, Albert Bernard (II)	Va.
DiBenedetto, Anthony Domenico (III)		Gibson, James Wallace (III)	
B.S. 1941, Villanova College	Pa.	B.S. 1941, Hampden-Sydney College	D.C.
Ditzler, Marshall Ernest (IV)		Gillette, Warren (III)	
B.S. 1945, Lebanon Valley College	D.C.	B.S. 1942, California Institute of Technology	N.Y.
Dixon, William Martin (IV)	Mich.	Gillman, Robert David (III)	
Doran, Stephen Mark (III)	D.C.	A.B. 1949, Yale University	
Dorton, Maryanna Elizabeth (II)		A.M. 1946, Columbia University	D.C.
A.B. 1948, The George Washington University	Calif.	Gimble, Abraham Isaac (I)	
Doyle, John Benedict Jr. (I)		B.S. 1943, M.S. 1948, The George Washington University	D.C.
A.B. 1948, University of California at Los Angeles	Mich.	Godley, Gloria Swanson (I)	D.C.
Drachard, Kenneth Earl (IV)	N.Y.	Goldberg, James Lee (IV)	Md.
Duboff, Seymour (II)		Goodman, Clifford James (II)	Ariz.
A.B. 1948, The George Washington University	Conn.	B.S. 1947, The George Washington University	
Dunbar, Anne Cameron (IV)		Gordon, James Kirke (I)	Va.
A.B. 1942, The George Washington University		Greaves, Keith Carpenter (II)	Idaho
A.M. 1944, Colorado College		B.S. 1941, University of Idaho	Va.
E		Green, Jess Downings Jr. (III)	
Eanet, Morton Philip (II)	D.C.	A.B. 1944, University of Kansas City	D.C.
A.B. 1947, Yale University		Green, William Oliver, Jr. (I)	Ind.
Egleston, Harold Norris, Jr. (I)	Md.	Greenlee, Robert Leonard (IV)	D.C.
Ehrmantraut, Wilfred Russell (Grad.)	Md.	Guerin, Bernard (III)	
B.S. 1948, University of Maryland	N.J.	B.S. 1944, Louisiana State University	
Eidenberg, David (I)	Va.	M.S. 1946, The George Washington University	Md.
English, Harold Medvin (IV)	Utah	Guthrie, Eugene Harding (II)	
Erms, Harry Harold (I)		H	
A.B. 1948, Brigham Young University	D.C.	Hagen, William August (I)	Ohio
Ericksen, Robert Lyle (III)	N.Y.	A.B. 1948, Hiram College	
Fasman, Leonard Joseph (IV)	N.Y.	Hall, Allan (I)	N.J.
Everling, Charles Jerome (III)	Ohio	Hamby, Alice Walters (III)	Ky.
Everhart, Clarence Edward (I)		A.B. 1943, Pennsylvania College	Calif.
B.S. 1948, Western Reserve University		Hansen, Martin Edmund (II)	Wash.
F		Hardy, William McCauley (IV)	
Fabi, Mario Nestor (III)	Pa.	B.S. 1946, University of Oregon	Md.
Farr, Basil Joseph (I)	Utah	Haslam, John Sarkise (IV)	
Fealy, Jack (II)	Ala.	B.S. 1947, University of New Hampshire	
B.S. 1947, Birmingham Southern College	D.C.	Haslam, Allen Lee (III)	Fla.
Federle, Jesse Alan (I)	Ohio	Hathaway, Betty Elaine (I)	Ind.
Feezel, Richard Albert (II)		B.S. 1944, Indiana University	Tex.
B.S. 1948, Western Reserve University	Va.	Haynes, Aubrey Franklin (IV)	Va.
Feltnan, Robert Ferrer (I)	N.Y.	Hessy, Gregory Thomas (I)	N.M.
Fernbach, Donald Joseph (I)		Hilber, Charles Edison (I)	Ohio
A.B. 1948, Tusculum College	Md.	Hines, Robert Haysam (IV)	Md.
Files, George Everett (II)		Holzworth, Dorothy Catherine (III)	
B.S. 1943, Tufts College		A.B. 1944, Notre Dame College, Md.	
		A.M. 1946, Catholic University of America	

Honig, Doris Marcelle (I) A.B. 1944, Hunter College	N.Y.		
Hopkins, Theodore Reed (II) A.B. 1947, Stanford University	Calif.	Maclean, Marion Elizabeth (IV) B.S. 1944, The George Washington University	D.C.
Horn, Henry Joseph (III) B.S. in E.E. 1941, Lehigh University	Pa.	Maffey, Ralph Burton (III) B.S. 1943, Rutgers University	N.J.
Howie, Donald Lynk (IV)	Mass.	Magness, John Lower (III)	Ohio
Howard, Robert Lynwood (II)	Ala.	Maloney, Thomas Preston (IV)	Mich.
Hughes, Francis Homer, Jr. (III) B.S. 1946, Salem College	D.C.	Mandes, James Charles (III) A.B. 1947, The George Washington University	D.C.
Huntton, Richard Edwin (I)	D.C.	Manson, Joseph Pearce (II) B.S. 1942, University of Minnesota	Wis.
Hutt, James Brooke, Jr. (II) B.S. in E.E. 1942, University of Michigan	Va.	Manthey, Richard Gledhill (II) B.S. 1948, Western Reserve University	Conn.
Hyde, Grant Lafayette (II)	Calif.	Martens, Doris Katharine (II) A.B. 1944, University of Southern California	Calif.
J			
Jampolsky, Alton Morton (III)	R.I.	Martin, Dean Harrington (III) Mattingly, Thomas Ernest, Jr. (II) A.B. 1948, The George Washington University	D.C. Md.
Jenkins, Robert Lawrence, Jr. (IV)	Pa.	Mayberry, Paul Raymond (I)	Maine
Johnson, Howard Hamilton, Jr. (II) A.B. 1948, The George Washington University	D.C.	Mayne, John Cleland (I) A.B. 1948, Albion College	Mich.
K			
Kayhoe, Donald Ellsworth (III) A.B. 1948, The George Washington University	Md.	McClelland, James Robert (II) McCune, Violet Kellerg (II) A.B. 1948, The George Washington University	D.C. N.Y.
Kelser, George Archibald, Jr. (IV) B.S. 1946, Harvard University	Md.	McKelway, William Prentiss (III) A.B. 1943, Washington and Lee University	D.C.
Kent, Stephen Garland, Jr. (III) Kerr, Horace Esekew (I)	Va. D.C.	McWhirt, Joseph Russell (II) A.B. 1948, The George Washington University	D.C.
Kestianian, John Mark (III) Kilpatrick, John Taylor (IV) B.S. 1948, University of Oklahoma	D.C.	Meeker, John Harbeck, Jr. (I) A.B. 1940, Drew University	N.J.
Kiracofe, Arthur Hiram (IV) A.B. 1943, Franklin and Marshall College	Okl.	Merritt, Arthur Donald (I) Metzger, Joseph Francis (III) Metzerott, Kirk Oliver (I)	D.C. Va. Minn.
Kirchner, Francis Carlyle (I) B.S. 1948, The George Washington University	Md.	Michael, Arnold Hugh (IV) Michals, Raymond Martin (IV)	D.C. Wis.
Kikka, Raymond Ripes (II) Klapp, Robert Dwane, Jr. (I) A.B. 1948, The George Washington University	Ohio Ohio	Miller, Grant William (II) Muller, Maurice Myles (I) A.B. 1948, The George Washington University	D.C. Va.
Knox, Robert Ormiston (III) A.B. 1947, The George Washington University	D.C.	Miller, Ralph Jewart (I) Miller, Ray Lambert (IV) B.S. 1936, Northwest Missouri State Teachers College	Pa. Va.
Kolb, Karl Philip (III) Kraehmer, Robert Lawrence (II) A.B. 1943, Boston University	Mich. Va.	Monier, John Baptiste (II) B.S. in Chem. 1941, University of Pittsburgh	Pa.
L			
Lahti, Carl Robert (IV)	Mich.	Monyak, John George (I)	Pa.
Lamb, Rodney John (I)	Calif.	Moreledge, Charles Calvin (I)	Mont.
Lane, John Grotke, Jr. (IV)	Fla.	Morris, Douglas Cockerille (III)	Va.
Lash, Robert Frederick (IV)	Ill.	Mossman, Paul Burrell (IV) A.B. 1945, University of California	Colo.
Lasher, Jay Donald (II)	Pa.	Mott, Richard Henry, Jr. (III) A.B. 1947, The George Washington University	D.C.
Lauchmiller, Roy William, Jr. (II) A.B. 1947, Maryville College	Md.	Muhonen, Oliver Adolph (I)	Minn.
Law, Arthur Gregory (IV) Leckie, Jack (III) B.S. 1938, Marshall College	D.C. W.Va.	N	
Lee, Gilbert Stanley (IV) A.B. 1941, Stanford University	D.C.	Naiden, Eulaine (III) B.S. 1941, University of Idaho	Va.
Leonarduzzi, David Rinn (II) A.B. 1948, The George Washington University	D.C.	Nason, John Peter (II) A.B. 1947, University of Minnesota	Md.
Littwin, Charles Stuart (III) A.B. 1943, Harvard College	N.J.	Nelson, Donald Sell (III)	D.C.
Lyons, William Stewart (II)	D.C.		

O		S	
Oakley, George D. (I)	Hawaii	Sager, John Harmer (I)	D.C.
A.B. 1948, University of Hawaii		A.B. 1946, Princeton University	
Ofteval, Sverre John, Jr. (III)	D.C.	Sandilford, George William (II)	Pa.
A.B. 1942, Occidental College		Sansom, Lavare Earl (I)	Calif.
O'Gara, Roger William (II)	Mass.	A.B. 1947, University of California	
A.B. 1948, The George Washington University		Savarese, Charles Joseph, Jr. (III)	D.C.
O'Leary, Mary Jean (IV)	D.C.	A.B. 1944, University of North Carolina	
A.B. 1946, The George Washington University		Schmidt, Donald Gerry (III)	Mont.
P		B.S. 1942, University of Washington	
Paalow, Joseph (II)	D.C.	Schmidt, William F. (II)	N.Y.
B.S. 1948, University of Pittsburgh		Schultz, Theodore Arthur (I)	Ohio
Parrish, Matthew Denwood (III)	Va.	B.S. 1948, Capital University	
A.B. 1939, University of Virginia		Schurter, Maxine Ann (II)	D.C.
Pear, Bertram Lincoln (III)	Colo.	A.B. 1944, Pomona College	
A.B. 1947, The George Washington University		Schwartz, Julius Louis (II)	N.Y.
Pendleton, Henry Walter (I)	Minn.	A.B. 1947, New York University	
A.B. 1947, Amherst College		Seborer, Miriam Z. (III)	N.Y.
Phillips, Lawrence Vance (I)	D.C.	A.B. 1942, Hunter College	
Pickering, Winifred Harold (I)	Ohio	A.M. 1940, Columbia University	
Pickens, Joseph William (II)	N.Y.	Shabehn, Michael Edmund (IV)	Miss.
Pine, Donald Kay (I)	Va.	B.S. 1944, Boston University	
Pittner, Robert James (IV)	Miss.	Sigets, Richard Lawrence (IV)	D.C.
B.S. 1948, Mississippi State College		A.B. 1945, Columbia University	
Piver, John S. (I)	D.C.	Silverberg, Stanley Melvin (I)	D.C.
B.S. 1948, The George Washington University		Smith, James Anthony (IV)	N.Y.
Plano, Ray Earl (I)	Pa.	Smith, Samuel Rudolph (II)	Va.
B.S. 1948, Pennsylvania State College		A.B. 1948, The George Washington University	
Polla, Jerome Lee (IV)	D.C.	Solomon, Robert Joseph (IV)	Mich.
B.S. 1946, Franklin and Marshall College		Spruwell, Robert Roy (I)	Wyo.
Porter, Melvin A. (IV)	Kans.	A.B. 1948, University of Denver	
Porter, Stanley Eugene (I)	Va.	Stace, Anson Hutchinson (I)	Va.
Press, Ernest Carl (IV)	N.Y.	Stall, Robert William (I)	Va.
Price, Elizabeth (II)	Va.	A.B. 1946, Gettysburg College	
A.B. 1941, Columbia University		Stallings, James Henry, Jr. (I)	D.C.
A.M. 1944, University of Minnesota		A.B. 1948, Duquesne University	
R		Stamcy, Harry Clay (I)	Pa.
Rapp, Raymond Edward, Jr. (I)	D.C.	Steen, Harold Lawrence (III)	N.Y.
B.S. 1948, The George Washington University		A.B. 1947, The George Washington University	
Reep, Richard Louis (I)	Calif.	Stewart, Allan Hugh (I)	Calif.
A.B. 1948, Stanford University		Stewart, Henry (I)	Nev.
Reyes, Raul Gregorio (III)	Mexico	A.B. 1948, University of Nevada	
B.S. 1946, Georgetown University		Stokes, James Arthur (I)	Pa.
Rhame, Harold Elias, Jr. (II)	N.Y.	Stone, Karl L. (II)	D.C.
A.B. 1946, Princeton University		Stout, Henry Wallace (IV)	D.C.
Ritts, Roy Elliot, Jr. (II)	D.C.	Stump, Charles Albert (I)	W.Va.
A.B. 1948, The George Washington University		A.B. 1948, University of Pennsylvania	
Roberts, Jack Rodney (III)	Idaho	Switzer, Walter Edwin (III)	Ill.
Roberts, John Alpheus (IV)	Calif.	M.S. 1941, University of Illinois	
Roberts, Joseph William (II)	Tex.	T	
B.S. 1947, Agricultural and Mechanical College of Texas		Thibault, Andrew Francis (III)	Md.
Robin, Eugene Debs (II)	D.C.	A.B. 1947, The George Washington University	
B.S. 1946, M.S. 1947, The George Washington University		Thibault, Paul Vincent, Jr. (IV)	D.C.
Ro, L. Herman Henry (III)	Wash.	B.S. 1948, The George Washington University	
B.S. 1947, Washington State College		Thompson, William Rowley, Jr. (II)	Calif.
Rosenthal, Melvin Stanley (I)	D.C.	A.B. 1947, University of Southern California	
Rose, Frank Joseph (I)	N.I.	Talbot, Ernest Louis (II)	Ohio
Robenstein, Norman Hartley (III)	D.C.	B.S. 1947, Western Reserve University	
		Taller, Harold Stanley (IV)	Md.
		Titus, Harold Wayne, Jr. (I)	D.C.
		Tomlinson, William Barrington (IV)	N.I.
		Townsend, Charles Tibb (II)	D.C.
		A.B. 1948, The George Washington University	

Tribble, William MacLemon (III) A.B. 1944, Princeton University	D.C.	Wensel, Louise Oftedal (IV) A.B. 1939, Wellesley College	Md.
Tripp, Richard Carlton (I) A.B. 1947, University of Iowa	Iowa	West, Marc Lee (I) B.S. 1940, The George Washington University	D.C.
Tugendhaft, Robert Irwin (I) B.S. 1948, The George Washington University	D.C.	Wherry, David Colwell (I) Whisenand, Benjamin Murray (II)	Nebr. Oreg.
Tway, Lawrence Edward (IV)	Calif.	Whitehead, Roger Donald (I) Whitnack, John Doyle (IV)	Calif. Calif.
U			
Uhrik, Irene Joan (II) B.S. 1943, M.S. 1946, Pennsylvania State College	Pa.	Whyte, Rosalie Ann (IV) A.B. 1946, The George Washington University	D.C.
Umhau, John B. (I)		Willett, Edwin Dexter (III)	Hawaii
Unger, Howard Robert (I)	D.C.	Williams, Gerald Albert (IV) B.S. 1945, South Dakota State College	Iowa
Upton, Emily Frances (III) B.S. 1946, University of Maryland	D.C. Md.	Williams, Thomas Alfred (I) A.B. 1948, West Virginia University	W.Va.
V			
VanAtta, Glen (IV)	Ohio	Wilson, William Dean (II)	Wyo.
Van De Water, Malcolm Stickle (I)	Fla.	Wimberley, Claire Baker (IV) A.B. 1944, University of Alabama	Ala.
Van Gelderen, Bertha Elizabeth (IV) A.B. 1946, The George Washington University	D.C.	Wineland, Robert Kenneth (II) A.B. 1948, The George Washington University	D.C.
Varvarevskis, Yvonne (III)	D.C.	Winter, Frank Ephraim (III) B.S. 1943, University of Pittsburgh	N.Y.
Vigneaux, Jose Ramon (II)	Puerto Rico	Wood, Edwin Charles (III)	D.C.
Vivian, Charles George (I)	Wyo.	Wordich, Francis deSales (I) B.S. 1945, Harvard University	D.C.
W			
Waslkes, T. Phillip (II) A.B. 1941, Hope College Ph.D. 1945, Ohio State University	D.C.	Wroth, Ralph Lane (II) A.B. 1947, Kenyon College	Pa.
Wacker, Warren Ernest Clyde (II)	Va.	Y	
Wade, Robert Lee (II)	D.C.	Yanowitz, Arthur (III)	N.Y.
Waldrop, Francis Neil (III) A.B. 1946, University of Minnesota	Md.	Yedzinskiak, Michael Alexius (II)	Conn.
Walter, Katharine Mariam (III) B.S. 1944, The George Washington University	Md.	Yetman, Thomas William (IV)	R.I.
Weaver, Frank Lloyd, Jr. (III) A.B. 1947, The George Washington University	Md.	Young, Robert (II) A.B. 1948, The George Washington University	D.C.
Z			
		Zitani, Alfred Marius (IV)	Va.

SUMMARIES OF REGISTRATION

1948-49

NUMBER OF REGISTRATIONS

Class Entering September 1948.....	92
Class Entering September 1947.....	81
Class Entering September 1946.....	78
Class Entering September 1945.....	69
Graduate Student	1
Total.....	321

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

Alabama	4	New Jersey	11
Arizona	1	New Mexico	2
California	19	New York	20
Colorado	2	North Carolina	2
Connecticut	3	Ohio	17
District of Columbia	98	Oklahoma	1
Florida	5	Oregon	1
Georgia	1	Pennsylvania	16
Idaho	2	Rhode Island	2
Illinois	3	South Carolina	1
Indiana	3	Texas	2
Iowa	3	Utah	2
Kansas	1	Virginia	33
Kentucky	1	Washington	3
Maine	1	West Virginia	3
Maryland	25	Wisconsin	3
Massachusetts	2	Wyoming	3
Michigan	8	Hawaii	2
Minnesota	3	Mexico	1
Mississippi	2	Puerto Rico	3
Montana	3		
Nebraska	1		
Nevada	2	Total.....	321

GRADUATES OF COLLEGES REGISTERED IN THE SCHOOL OF MEDICINE

Alabama, University of	2	California Institute of Technology	1
Albion College	1	Capital University	1
Amherst College	1	Catholic University of America... ..	1
Birmingham-Southern University ..	1	Chicago, University of	1
Boston University	2	Cincinnati, University of	1
Brigham Young University	1	Colorado College	1
Butler University	1	Columbia University	5
California, University of	2	Denver University	1
California, University of, Los Angeles ..	1	Drew University	1
		Duke University	1

Florida, University of	1	Notre Dame College, Md.	1
Franklin and Marshall College ..	3	Occidental College	1
George Washington University ..	54	Ohio State University	1
Georgetown University	1	Oklahoma, University of	2
Gettysburg College	1	Oregon, University of	2
Hamilton College	1	Pennsylvania State College	2
Hamden-Sydney College	1	Pennsylvania State Teachers Col- lege, East Stroudsburg	1
Harvard University	2	Pittsburgh, University of	5
Hawaii, University of	1	Pomona College	1
Hiram College	1	Princeton University	3
Hobart College	1	Puerto Rico, University of	1
Hope College	1	Rutgers University	2
Howard College	1	Salem College	1
Hunter College	2	Smith College	1
Idaho, University of	2	South Dakota State College	1
Illinois, University of	1	Southern California, University of	3
Indiana University	1	South Carolina, University of	1
Iowa, University of	1	Stanford University	3
John Carroll University	1	Texas, Agricultural and Mechan- ical College of	1
Kansas City, University of	1	Transylvania University	1
Kentucky, University of	1	Trinity College	1
Kenyon College	1	Tufts College	1
Lebanon Valley College	1	Tusculum College	1
Lehigh University	1	Villanova College	1
Louisiana State University	1	Virginia, University of	2
Marion College	1	Washington, University of	1
Marshall College	1	Washington and Lee University ..	1
Maryland, University of	3	Washington State College	1
Maryville College	1	Wellesley College	1
Michigan, University of	3	Western Reserve University	6
Minnesota, University of	4	Westminster College	1
Mississippi State College	1	West Virginia University	1
Missouri, University of	1	Wheaton College, Illinois	1
Mount Union College	2	Whitman College	1
Nevada, University of	1	Yale University	2
New Hampshire University	1		
New York University	1	Number of College Graduates 178	
North Carolina, University of ...	1	Number of Colleges Repre- sented	95
North Carolina, State College ...	1		
Northwest Missouri State Teachers College	1		
Northwestern University	1		

THE CATALOGUE ISSUE

1949-50

THE
GEORGE
WASHINGTON
UNIVERSITY
BULLETIN

VOL. XLVIII

No. 4

THE CATALOGUE ISSUE

WASHINGTON, D. C.

PUBLISHED IN JUNE
MCMXLIX

BY THE UNIVERSITY

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THE UNIVERSITY CALENDAR

1949								1950							
July								January							
S	M	T	W	T	F	S		S	M	T	W	T	F	S	
..	1	2		1	2	3	4	5	6	7	
3	4	5	6	7	8	9		8	9	10	11	12	13	14	
10	11	12	13	14	15	16		15	16	17	18	19	20	21	
17	18	19	20	21	22	23		22	23	24	25	26	27	28	
24	25	26	27	28	29	30		29	30	31	
31	
August								February							
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14	15	16	17	18	19	20		12	13	14	15	16	17	18	
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September								March							
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18	19	20	21	22	23	24		19	20	21	22	23	24	25	
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16	17	18	19	20	21	22		16	17	18	19	20	21	22	
23	24	25	26	27	28	29		23	24	25	26	27	28	29	
30	31		30	
November								May							
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13	14	15	16	17	18	19		14	15	16	17	18	19	20	
20	21	22	23	24	25	26		21	22	23	24	25	26	27	
27	28	29	30		28	29	30	31	
December								June							
..	1	2	3		1	2	3		
4	5	6	7	8	9	10		4	5	6	7	8	9	10	
11	12	13	14	15	16	17		11	12	13	14	15	16	17	
18	19	20	21	22	23	24		18	19	20	21	22	23	24	
25	26	27	28	29	30	31		25	26	27	28	29	30	..	
..	
July								August							
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16	17	18	19	20	21	22		16	17	18	19	20	21	22	
23	24	25	26	27	28	29		23	24	25	26	27	28	29	
30	31		30	31	

THE UNIVERSITY CALENDAR *

1949-50

Date	Day	Occasion
1949 FALL TERM:		
Sept. 27	Tuesday	Meeting of the University Faculty Examination for students who wish to qualify for advanced courses or waive curriculum requirements
Sept. 28-30	Wednesday through Friday	Registration
Oct. 3	Monday	Academic year begins
Oct. 13	Thursday	Stated meeting of the Board of Trustees
Oct. 14	Friday	Last day on which candidates may file thesis subjects for the Master's degrees conferred in February
Oct. 21	Friday	Last day on which candidates may file dissertation subjects for the degrees of Doctor of Philosophy, Doctor of Juridical Science, and Doctor of Education to be conferred the following May
Nov. 11	Friday	Fall Convocation. Holiday
Nov. 24-26	Thursday through Saturday	Thanksgiving recess
Dec. 6	Tuesday	Meeting of the Academic Council
Dec. 8	Thursday	Stated meeting of the Board of Trustees
Dec. 10	Saturday	Foreign-language examinations for candidates for the Master's degrees
Dec. 22-Jan. 2	Thursday through Monday	Christmas recess
1950 Jan. 3	Tuesday	Classes resume Last day for applications for degrees to be conferred in February

* In the School of Medicine, registration is conducted September 15 and 16, classes begin September 19.

THE UNIVERSITY CALENDAR—Continued

Date	Day	Occasion
Jan. 6	Friday	Last day for receiving dissertations of candidates for the degrees of Doctor of Philosophy, Doctor of Juridical Science, and Doctor of Education to be conferred in February
Jan. 21	Saturday	Last day of classes for the fall term
Jan. 23	Monday	Last day for receiving theses of candidates for the Master's degrees and for the professional degrees in Engineering to be conferred in February
Jan. 23-31	Monday through Tuesday	Fall term examination period
WINTER TERM:		
Feb. 1	Wednesday	Examinations for students who wish to qualify for advanced courses or waive curriculum requirements
Feb. 2 and 3...	Thursday and Friday..	Registration
Feb. 6	Monday	Classes resume for the winter term
Feb. 9	Thursday	Stated meeting of the Board of Trustees
Feb. 17	Friday	Last day on which candidates may file thesis subjects for the Master's degrees to be conferred in May
Feb. 22	Wednesday	Winter Convocation. Holiday
March 1	Wednesday	Applications for fellowships for 1950-51 should be filed
March 9	Thursday	Stated meeting of the Board of Trustees
March 21	Tuesday	Meeting of the University Faculty
April 7 and 8..	Friday and Saturday..	Easter recess
April 14	Friday	Last day for receiving dissertations of candidates for the degrees of Doctor of Philosophy, Doctor of Juridical Science, and Doctor of Education to be conferred in May
		Last day on which candidates may file dissertation subjects for the degrees of Doctor of Philosophy, Doctor of Juridical Science, and Doctor of Education to be conferred the following February
		Last day for applications for degrees to be conferred in May

THE UNIVERSITY CALENDAR—Continued

Date	Day	Occasion
April 15	Saturday	Foreign-language examinations for candidates for the Master's degrees
April 24	Monday	Last day for receiving theses of candidates for the Master's degrees and for the professional degrees in Engineering to be conferred in May
April 25	Tuesday	Meeting of the Academic Council
May 1	Monday	Applications for scholarships for 1950-51 should be filed
May 8	Monday	Summer term preregistration of students registered winter term
May 16	Tuesday	Last day of classes for the winter term
May 17-25	Wednesday through Thursday	Winter term examination period
May 18	Thursday	Annual meeting of the Board of Trustees
May 28	Sunday	Baccalaureate Sermon
May 31	Wednesday	Commencement
SUMMER TERM:		
June 5	Monday	Registration of new students for the first session and the fifteen-week term of the summer term
June 6	Tuesday	Classes begin
July 4	Tuesday	Independence Day. Holiday
July 31	Monday	First summer session ends
Aug. 1	Tuesday	Registration for the second session of the summer term
Aug. 2	Wednesday	Classes begin
Aug. 7	Monday	Last day for applications for degrees to be conferred in November
Aug. 26	Saturday	Foreign-language examinations for the candidates for Master's degrees
Aug. 28	Monday	Last day for receiving theses for the Master's degrees and for the professional degrees in Engineering to be conferred in November
Sept. 4	Monday	Labor Day. Holiday
Sept. 15	Friday	Fifteen-week term ends
Sept. 22	Friday	Second summer session ends
Sept. 27-29	Wednesday through Friday	Registration for the fall term of the academic year 1950-51

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1952

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THE DIVISION OF SPECIAL STUDENTS

The Dean of the Division

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The Dean of the Summer Sessions

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The Dean of the School of Pharmacy
The Dean of the School of Education
The Dean of the School of Government
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|---|--|
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* On leave of absence 1949-50.

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JAMES JOHNSON DURRETT, M.S., PHAR.G., M.D. <i>Professorial Lecturer on Drug Control Problems</i>	Route 1 Hyattsville, Md.
ROBERT PHILIP FISCHER, B.S., PHAR.D., Sc.D. <i>Professorial Lecturer on Pharmaceutical Organizations</i>	2215 Constitution Ave.
CARSON PETER FRILEY, PHAR.D., Sc.D. <i>Professorial Lecturer on Industrial Pharmacy</i>	5724 Livingston St.
JAMES ALBERT HORTON, LL.B. <i>Professorial Lecturer on Drug Trade Regulations</i>	Westchester Apts.
JOHN CHRISTIAN KRANTZ, JR., Ph.D. <i>Professorial Lecturer on Pharmaceutical Research</i>	Ellingham Rd. Ruxton, Md.
GEORGE POTTER LARRICK <i>Professorial Lecturer on Drug Control</i>	4841 30th St. N. Arlington, Va.
JUSTIN LAWRENCE POWERS, Ph.D. <i>Professorial Lecturer on Official Drug Standards</i>	833 S. Barton St. Arlington, Va.
ROBERT LEE SWAIN, PHAR.D., LL.B. <i>Professorial Lecturer on Contemporary Pharmacy</i>	330 W. 42d St. New York City

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SARA ELIZABETH BRANHAM, Ph.D., M.D. Sc.D. <i>Professorial Lecturer in Preventive Medicine</i>	5523 Johnson Ave. Bethesda, Md.
ROBERT CARTER COOK <i>Professorial Lecturer on Medical Genetics</i>	1507 M St.
ROLLA EUGENE DYER, A.B., M.D., LL.D. <i>Professorial Lecturer in Preventive Medicine</i>	12 North Dr. Bethesda, Md.

* On sabbatical leave winter term 1949-50.

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Professorial Lecturer on Medical Mycology
- ROBERT HANNA FELIX, M.D., M.P.H.
Professorial Lecturer on Mental Hygiene
- WALLACE HARRY GRAHAM, B.S., M.D.
Professorial Lecturer in Surgery
- JOHN RODERICK HELLER, Jr., B.S., M.D.
Professorial Lecturer on Venereal Disease Control
- ELSON BOWMAN HELWIG, B.S., M.D.
Professorial Lecturer in Pathology
- CARL JOHN LAUTER, M.S.
Professorial Lecturer on Municipal Sanitation
- HENRY RAPPAPORT, M.D.
Professorial Lecturer in Pathology
- ROYD RAY SAYERS, A.M., M.D.
Professorial Lecturer on Industrial Hygiene
- HANS FRANK SMETANA, M.D.
Professorial Lecturer in Pathology
- NORMAN HAWKINS TOPPING, A.B., M.D.
Professorial Lecturer on Rickettsial Diseases
- WILLARD HULL WRIGHT, D.V.M., Ph.D.
Professorial Lecturer on Medical Zoology
- CLARK HARVEY YEAGER, M.D., Dr.P.H.
Professorial Lecturer on Tropical Medicine
- Route 2
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- 5802 Roosevelt St.
Bethesda, Md.
- The White House
- 8615 Lynnbrook Dr.
Bethesda, Md.
- 14 West Maple St.
Alexandria, Va.
- 5902 Dalecarlia Pl.
- 1466 Belmont St.
- 607 Orinoco St.
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- 6100 14th St.
- 10 North Dr.
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- 3016 Nichols Ave. SE.
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 Birdie Harris, *Manager of the Student Club*
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 Doris Matthews, A.B., *Secretary, Office of the Director of Activities for Women*
 Dorothy Louise Chaddock, *Secretary to the Director of Activities for Men*
 Jane Pauline Patterson, *Stenographer, Office of the Director of Activities for Men*

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 Arthur David Zahn, A.B., *Baseball and Basketball Coach*
 Eugene Hughy Sherman, Sr., B.S., *Assistant Football Coach and Freshman Basketball Coach*
 Roger Antaya, A.M., *Assistant Football Coach*
 Timothy Swett, B.S., *Assistant Football Coach*
 Mike Monchlovich, B.S., *Athletic Trainer*

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Robert Howe Harmon, A.B., M.D., *Director of the Glee Clubs*
Grace Ruble Harmon, *Associate Director of the Glee Clubs*
Leon Brusiloff, *Director of The George Washington University Band*

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Gloria Yocum, *Chief Clerk*
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Elizabeth Ann Reidy, *Clerk-typist*
Nancy Lavada Lisenbee, A.B., *Clerk-typist*
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Jessie Ramsey Lee, *Hostess in Staughton Hall*
Virginia Randolph Kirkbride, A.M., *Hostess in Sorority Hall, 2129 G
Street*
Jessie Lee Baldwin, *Hostess in Sorority Hall, 802 Twenty-first Street*
Nora Anderson, *Hostess, Residence Hall for Women, 2025 H Street*

THE UNIVERSITY

HISTORY AND ORGANIZATION

HIISTORY

The idea of a university located in the Capital of the Nation was sponsored by George Washington, who during his public life urged the establishment of such an institution and who in his will left fifty shares of stock in the Potomac (Canal) Company for the endowment of a university to be established in the District of Columbia "to which the youth of fortune and talents from all parts thereof might be sent for the completion of their Education in all the branches of polite literature;— in arts and Sciences,—in acquiring knowledge in the principles of Politics & good Government".

It was George Washington's hope that the "General Government" would extend toward such an institution "a fostering hand". No steps were taken by Congress to carry out the provision of Washington's will, and the stock that he had bequeathed for the establishment of a university in the District of Columbia became valueless owing to the failure of the Potomac Canal properties.

Meanwhile, however, a movement was started by private persons under the leadership of Luther Rice to establish an institution of higher learning at the seat of the National Government for the education of the Baptist ministry and to afford general collegiate training. In 1819 an association was formed by Luther Rice, Obadiah B. Brown, Spencer H. Cone, and Enoch Reynolds for the purpose of raising funds to buy land for the use of the college.

A group of the Nation's leaders who were especially interested in Washington's idea became patrons of the college and contributed to funds raised for the purchase of land and erection of buildings. Among them were James Monroe, President of the United States; William H. Crawford, Secretary of the Treasury; John C. Calhoun, Secretary of War; William Wirt, Attorney General; Return J. Meigs, Postmaster General; and thirty-two members of the Congress.

Legally to implement the college a petition was made to Congress for the incorporation of "the General Convention of the Baptist Denomination in the District of Columbia for evangelical and literary purposes". This petition was denied by Congress, on April 26, 1820, because of its sectarian character.

Failing to obtain a denominational charter, members of the association enlarged their objective to embrace national aims, and with the sponsorship of Government leaders there was presented in Congress a bill for the incorporation of "the Columbian Society for literary pur-

poses", it being proposed to realize in this way "the aspirations of Washington, Jefferson and Madison for the erection of a university at the seat of the federal government".

Acting upon this second petition, on February 9, 1821, Congress chartered Columbian College in the District of Columbia, inserting in the charter by special action the provision "That persons of every religious denomination shall be capable of being elected Trustees; nor shall any person, either as President, Professor, Tutor or pupil, be refused admittance into said College or denied any of the privileges, immunities or advantages thereof, for or on account of his sentiments in matters of religion".

Thus Columbian College in the District of Columbia was chartered by Congress as one of the early nonsectarian institutions of higher learning in the United States, under the distinguished favor of President James Monroe and members of his Cabinet.

A tract of approximately forty-seven acres, extending about one-half mile northwest of Boundary Street (Florida Avenue) between 14th and 15th Streets, was purchased and by 1822 the main building was completed sufficiently to use.

Two years later, when the first Commencement was held on December 15, 1824, Congress and the Supreme Court adjourned their sessions to enable their members to attend the exercises. President Monroe, John Quincy Adams, John C. Calhoun, Henry Clay, and the Marquis de Lafayette headed the eminent company in attendance.

The School of Medicine, established in 1821, was formally opened in 1825 and has been in continuous operation since that time. The Law School, organized in 1826, was discontinued the following year, and was reestablished in 1865. It is the oldest law school in Washington.

By an act of Congress of March 3, 1873, the name of the college was changed to "Columbian University", in recognition of the enlarged scope of the institution. In 1884 the University was moved from its first location on "College Hill"; now Columbia Heights, to the new University Hall built for it at Fifteenth and H Streets. Near-by buildings accommodated the School of Medicine.

For a period of six years, from 1898 to 1904, the University was placed under control of the Baptist Denomination. In 1904 an act restoring the original secular character of the University and authorizing change of name to The George Washington University was passed by Congress.

Subsequently all the colleges, schools, and divisions of the University except the School of Medicine and the University Hospital, were brought together at the present location in the city blocks bounded by Twentieth, Twenty-third, G, and H Streets NW., and in the blocks adjacent. The School of Medicine is situated on H Street between Thirteenth and

Fourteenth Streets NW.; the University Hospital is on Washington Circle.

In 1930 a new plan of academic organization for the liberal arts work was effected. The Junior College was established, comprising the work of the freshman and sophomore years. The junior and senior years were retained in Columbian College, which was designated the senior college of letters and sciences. As a further step, the year of study leading to the Master's degree was separated from the graduate work for the Doctor's degree and assigned to Columbian College. The Graduate Council was organized to administer the work for the degree of Doctor of Philosophy. These innovations were accompanied by the establishment of a carefully controlled independent study plan, the grouping of departments of instruction under the divisional type of organization, and the institution of a new plan of administration both for the undergraduate major and for the Master's work.

The endowment of the University is \$2,830,000.

THE COLLEGES, SCHOOLS, AND DIVISIONS

The George Washington University includes twelve colleges, schools, and divisions, as follows: the Junior College; Columbian College, the senior college of letters and sciences; the Graduate Council; the School of Medicine; the Law School; the School of Engineering; the School of Pharmacy; the School of Education; the School of Government; the Division of University Students; the Division of Special Students; and the Summer Sessions.

ACADEMIC STATUS

The George Washington University is on the approved list of the Association of American Universities, the standard accrediting body for the universities and colleges of the United States. This fact not only assures to students the academic standards of this accrediting body, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency, the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women. The University is a member of the College Entrance Examination Board.

The Law School is a charter member of the Association of American Law Schools and is approved by the Council of Legal Education of the American Bar Association. The School of Medicine is a member of the Association of American Medical Colleges, is one of the medical colleges which have been designated continuously as "class A" by the American Medical Association, and is credited for all its work by the Combined

(Royal) Medical Examining Boards in England. The School of Pharmacy is accredited by the American Council on Pharmaceutical Education and is a member of the American Association of Colleges of Pharmacy. The School of Engineering is on the accredited list of the Engineers' Council for Professional Development.

LOCATION

The George Washington University is in downtown Washington, four blocks west of the White House and east of the Potomac River with its extensive parkway. Within a few blocks are many of the departments of the Government, including the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Navy, the Department of the Interior, the Department of Agriculture, the Department of Commerce, and the Department of Labor. The Corcoran Gallery of Art, the Pan American Union Building, and the National Academy of Sciences are also near by, and the Capitol, the Library of Congress, and the National Gallery of Art are readily accessible to the University.

GOVERNMENT

The government and general educational management of The George Washington University are vested in a self-perpetuating Board of Trustees, with the President and Vice-President of the University as members ex officio. The members of the Board are named for a period of three years and are divided into three classes. The members of one class are elected at each annual meeting to fill the places of the members whose terms of office expire. Two members of each class are nominated by the Alumni Association.

EDUCATIONAL FACILITIES

BUILDINGS

Buildings, grounds, and equipment are valued at approximately \$13,000,000.

The buildings of the Junior College, Columbian College, the Graduate Council, the Law School, the School of Engineering, the School of Pharmacy, the School of Education, the School of Government, the Division of University Students, the Division of Special Students, and the University Hospital and Outpatient Department are located between Twentieth and Twenty-third Streets and between Pennsylvania Avenue and G Street. The School of Medicine is at Fourteenth and H Streets NW. The buildings of the University are as follows:

Chapin Recreation Hall, 1911 H Street. Named in honor of the late Stephen Chapin, President of the University from 1828 to 1841.

Corcoran Hall, 725 Twenty-first Street. Named in honor of the late William W. Corcoran, benefactor of the University and a former member of the Board of Trustees. Offices of the Comptroller, the departments of Chemistry, Electrical Engineering, and Physics; the chemistry, electrical engineering, and physics laboratories; classrooms.

Faculty Club House, 714 Twenty-first Street.

Gymnasium, 2010-12 H Street. Offices of the Department of Physical Education for Men.

Hall of Government, 710 Twenty-first Street. The gift of Mrs. Henry Alvah Strong, Trustee of the University. Offices of the Dean of the School of Government, the departments of Business Administration, Economics, History, Political Science, and Statistics; classrooms.

Hospital and Outpatient Department, Washington Circle.

International House, 2116 G Street. Office of the Adviser to Students from Foreign Countries; club rooms.

Lisner Auditorium, 730 Twenty-first Street. The gift of the late Abram Lisner, former Trustee of the University. The Auditorium; offices and classrooms of the Department of Speech.

Mechanical Engineering Building, 735 Twenty-first Street. Offices of the departments of Electrical and Mechanical Engineering; engineering testing laboratories, general laboratories, drafting rooms, and classrooms.

Office of the President, 2003 G Street.

Office of the Vice-President, 2003 G Street.

School of Medicine, 1335 H Street. Offices of the Staff of the School of Medicine; anatomy, bacteriology, biochemistry, histology and embryology, pathology, pharmacology, and physiology laboratories; the Medical Library; lecture rooms; classrooms; students' rooms.

Sorority Halls:

2129 G Street. Apartments of Pi Beta Phi, Sigma Kappa, Phi Mu, Alpha Delta Pi, Delta Zeta, Zeta Tau Alpha, and Kappa Kappa Gamma sororities.

2131 G Street. Apartments of Delta Gamma Sorority and Martha Washington Club.

- 802 Twenty-first Street. Apartments of Chi Omega and Phi Sigma Sigma sororities.
- 2112 G Street. Apartments of Kappa Alpha Theta and Kappa Delta sororities.
- Staughton Residence Hall for Women, 707 Twenty-second Street. Named in honor of William Staughton, the first President of the University (1821-1827).
- Stockton Hall, 720 Twentieth Street. Named in honor of the late Rear Admiral Charles Herbert Stockton, President of the University from 1910 to 1918. Offices, library, and lecture halls of the Law School.
- Strong Residence Hall for Women, 620 Twenty-first Street. Named in honor of the donor, Mrs. Henry Alvah Strong.
- Student Union, 2125 G Street.
- Student Union Annex, 2127 G Street. Offices of Student Organizations.
- University Library, 2023 G Street. The gift of the late Abram Lisner, former Trustee of the University. The library; rooms of the Board of Trustees and the Graduate Council.
- Veterans' Club, 722 Twenty-second Street.
- Welling Hall, 814 Twenty-second Street. Residence Hall for Men. Named in honor of the late James Clarke Welling, President of the University from 1871 to 1894.
- Woodhull Building, 2033 G Street. Gift of the late General Maxwell Van Zandt Woodhull, former Trustee of the University. Office of the Director of Activities for Women; Placement Office; meeting rooms for student activities and the Columbian Women.
- Building A, 2026 G Street. Offices of the Department of Romance Languages.
- Building B, 2024 G Street. Laboratories and classrooms of the Department of Home Economics.
- Building C, 2029 G Street. Offices of the Registrar and the Director of Admissions; offices and laboratories of the departments of Biology, Botany, and Zoology; classrooms.
- Building D, 2013 G Street. Offices of the Dean of the Junior College, the Dean of Columbian College, the Dean of the Division of University Students, the Dean of the School of Education, and the Business Manager; offices of the departments of Art, Classical Languages, Education, English, Germanic Languages, Journalism, Mathematics, Philosophy, Psychology, Secretarial Studies, and Sociology; classrooms.
- Building F, 2018 I Street. Offices of the Director of Alumni Relations and the Director of Public Relations.
- Building G, 712 Twentieth Street. Offices of the Department of English.
- Building H, 714-16 Twentieth Street. Offices and locker rooms of the Department of Physical Education for Women.
- Building I, 2135 G Street. Offices, classrooms, and laboratories of the Department of Geography.
- Buildings J and L, 2131 and 2129 G Street (rear). Classroom and locker rooms of the Department of Physical Education for Women.
- Buildings M and N, 716-18 Twenty-first Street. Offices of the Dean of the School of Engineering and the Department of Civil Engineering.
- Building O, 2106 G Street. Office of the Department of Religion.
- Building P, 2108 G Street. Offices of the Student Health Service and the Dean of the Division of Special Students.
- Building Q, 2029 H Street. Office of the Director of Veterans Education.
- Building R, 2027 H Street. Offices of the Director of Activities for Men and the Athletic Staff.
- Building S, 2025 H Street. Residence Hall for Women.
- Building T, 717 Twenty-second Street. Offices of the Department of English.

Building U, 720 Twenty-second Street. Reading Clinic.

Building V, 2120 H Street (rear). Laboratories and classrooms of the Department of Physics.

Building W, 2128 H Street. Offices of the School of Pharmacy; pharmacy laboratories; classrooms.

Building X, 725 Twenty-third Street. Drafting rooms and classrooms of the School of Engineering.

THE UNIVERSITY LIBRARY

The University Library contains more than 170,000 volumes. The well equipped Library building houses all of the library except the law and medical collections. Over 5,000 bound volumes are added annually, and approximately 800 periodicals and publications of learned societies are received currently. Among the special collections of the Library are the Richard Heinzel Collection of Germanic philology and literature; the Curt Wachsmuth Collection of Greek and Roman literature, archeology, and history; the Mount Vernon Collection on political history, international law, and the social sciences; a representative collection of Spanish American books, the gift of the governments of Hispanic America; the Chauncey Mitchell Depew Public Speaking Collection, the gift of the late Mrs. Depew; and the Art Collection, which contains about 1,000 volumes made available by the American Institute of Architects, and the 7,500 mounted photographs of the Russell Sturgis Collection.

OTHER LIBRARY FACILITIES

The student has access also to the Library of Congress; the Public Library of the District of Columbia and its branches; the Library of the Carnegie Endowment for International Peace; the Library of the Pan American Union; the Library of the Bureau of Railway Economics; the Library of the United States Department of Agriculture; the Library of the United States Office of Education; the Army Medical Library; the Library of the Smithsonian Institution; and many of the other great special collections of the government departments.

GOVERNMENTAL INSTITUTIONS ACCESSIBLE TO STUDENTS

The congress of the United States has made the scientific resources of the Government accessible to students under the terms of the following joint resolution, approved April 12, 1892:

Resolved by the Senate and House of Representatives of the United States of America, in Congress assembled, That the facilities for research and illustration in the following and any other Governmental collections now existing or hereafter to be established in the city of Washington for the promotion of knowledge shall be accessible, under such rules and restrictions as the officers in charge of each collection may prescribe, subject to such authority as is now or may hereafter

be permitted by law, to the scientific investigators and to students of any institution of higher education now incorporated or hereafter to be incorporated under the laws of Congress or of the District of Columbia, to wit:

- One. Of the Library of Congress.
- Two. Of the National Museum.
- Three. Of the Patent Office.
- Four. Of the Bureau of Education.
- Five. Of the Bureau of Ethnology.
- Six. Of the Army Medical Museum.
- Seven. Of the Department of Agriculture.
- Eight. Of the Fish Commission.
- Nine. Of the Botanic Gardens.
- Ten. Of the Coast and Geodetic Survey.
- Eleven. Of the Geological Survey.

ADMISSION

All departments of the University accept men and women.

Students may enter any college, school, or division of the University except the School of Medicine at the beginning of the fall term, the winter term, or any of the sessions of the summer term.

Entrance to the School of Medicine in 1949-50 is permitted only at the opening of the term beginning September 1949.

GENERAL ADMISSION REQUIREMENTS

The following factors are considered in determining the eligibility of an applicant for admission:

1. The adequacy of previous academic work as preparation for the course of study now contemplated—including quantity and quality of work and the standing of the institution in which it was done.
2. The aptitude of the student for the course contemplated.
3. The character of the student.

The University reserves the right to refuse admission to any student who has a previous academic record of such grade as to create doubt of his ability to pursue college work successfully, or who for any other reason would not be a desirable student.

APPLICATION FOR ADMISSION

An applicant for admission must obtain from the Office of the Director of Admissions an application blank which he must fill out completely and return with the application fee of \$3. A recent photograph, with signature, of the applicant must be attached to the blank.

Applications should be filed not later than July 1 for the fall term, January 1 for the winter term, and May 1 for the summer term.

An applicant from a secondary school must send the high school record form provided by the University to his high school principal with the request that the principal fill out the form and mail it direct to the Office of the Director of Admissions.

An applicant who has previously attended an institution of higher learning must request the registrar of that institution to mail directly to the Office of the Director of Admissions a transcript of his record. If he has attended more than one such institution he must request the registrar of each institution to send to the Office of the Director of Admissions a transcript of his record, even though credits were not earned, together with an honorable dismissal from the institution last attended.

The Graduate Record Examination sponsored by the Carnegie Foundation for the Advancement of Teaching is accepted as supplemental evidence of the applicant's educational attainment, and the appropriate report should accompany the application for admission whenever available.

METHODS OF ADMISSION FROM SECONDARY SCHOOLS

An applicant from a secondary school may seek to qualify for admission by certificate or examination.

By Certificate

A certificate of graduation with a minimum of fifteen "units"* from an accredited secondary school and the recommendation from the principal of the secondary school that the applicant is prepared to undertake college work will be considered subject to the following conditions:

1. If the school is accredited by the regional accrediting association, the student must rank not lower than the third fifth of his class.
2. If the school is not listed by the regional accrediting association, but has been accredited by the state accrediting agency, the student must rank in the upper two fifths of his class.

By College Entrance Board Examinations

An applicant may qualify by passing satisfactorily College Entrance Board examinations as prescribed by the Director of Admissions. These examinations are given at The George Washington University on June 14, 1949; August 24, 1949; January 14, 1950; April 15, 1950; June 3, 1950; and August 23, 1950.

Arrangements for the examinations should be made with the College Entrance Examination Board, Post Office Box 592, Princeton, N. J., not less than one month before the date of the examinations.

FROM HIGHER INSTITUTIONS ‡

An applicant for advanced standing may be considered for admission upon the presentation of satisfactory credentials from an accredited institution of higher learning. The student must be in good standing as to scholarship and conduct, and must be eligible to return to the previously attended institution in the term for which he seeks admission to this University.

If the transcript of record from such an institution includes the record

* A unit represents a year's study in a secondary school subject, including in the aggregate not less than 120 sixty-minute periods of prepared classroom work.

‡ The University reserves the right to refuse advance credit in whole or in part, or to allow it provisionally. Credit so given may be withdrawn for subsequent poor work.

of his secondary school work, it is not necessary for the applicant to have forwarded a separate record directly from the principal of the secondary school. High school work is considered only as fulfilling entrance requirements; it is never credited toward advanced standing.

Properly certified courses taken at accredited colleges or universities may be applied toward a degree at this University, subject to the curriculum requirements and regulations of the school or college to which admission is sought. Work of low pass grade (such as *D* or the equivalent) may not be considered for transfer.

ENTRANCE REQUIREMENTS

THE JUNIOR COLLEGE •

An acceptable certificate of graduation from an accredited secondary school, or the satisfactory passing of College Entrance Board examinations selected with the approval of the Director of Admissions is required. (See "Methods of Admission".)

Distribution of Units for All Curricula except Premedical.—Except for admission to the premedical curriculum, certification by the principal that the student has satisfied all curriculum requirements of the school will be accepted in lieu of any prescribed distribution of units. Attention is called, however, to the necessity of completing stated prerequisite studies during the secondary school period for admission to certain curricula. It is to be noted that one unit of algebra is prerequisite to courses in chemistry, mathematics, physics, and statistics and that in addition one unit of plane geometry is prerequisite to courses in mathematics and physics. In the instance of applicants who do not meet the above stated mathematics requirements, algebra and plane geometry may be taken without college credit when offered by the Department of Mathematics. For a statement of the foreign language requirements see page 57.

Distribution of Units for the Premedical Curriculum.—The several state medical boards govern the granting of licenses to practice; hence their requirements as to high school credits must be met exactly. The fifteen units required must include three in English, two in one foreign language, one in algebra, one in geometry, one in history, and one in science (biology, botany, chemistry, or physics). Eleven of the units offered must be in the above subjects.

COLUMBIAN COLLEGE (THE SENIOR COLLEGE)

For the Bachelor's Degrees

Two years of Junior College work leading to the degree of Associate in Arts, or the lower-division work in institutions not organized on the junior-senior-college plan, following a specified curriculum, meet the

minimum requirements of Columbian College. In addition, however, scholarship requirements for admission may be set somewhat higher than those for graduation from the Junior College.

Bachelor of Arts.—An Associate in Arts degree based on the *Arts and Letters* curriculum in the Junior College, or the equivalent (see page 58), is required.

Bachelor of Science.—An Associate in Arts degree based on the *Science* curriculum in the Junior College, or the equivalent (see pages 58–59), is required.

For the Master's Degrees

An approved Bachelor's degree from an accredited higher institution is required. A student from an unaccredited institution may be admitted at the discretion of the Committee on Admission and Advanced Standing, but he will be required to take such extra work above the minimum requirements as may be prescribed. An appropriate distribution of courses and a superior quality of work in the major field are essential.

Applications for admission must be approved by the department or division and by the Dean.

Master of Arts.—The student's undergraduate curriculum must have included a program of study substantially equivalent to a major in his chosen field, together with an appropriate distribution of courses in other fields, or he must complete this prerequisite work in addition to that required for the Master's degree.

Master of Science.—The student's undergraduate curriculum must have included the equivalent of the undergraduate major of the scientific department under which he desires to work.

THE GRADUATE COUNCIL

Doctor of Philosophy.—The student must possess an adequate academic preparation for advanced study in the proposed field, as evidenced by approved Bachelor's and Master's degrees, or the equivalent, together with acceptable personal qualities and capacity for creative work.

THE SCHOOL OF MEDICINE

Doctor of Medicine.—Ninety credit hours of work, exclusive of physical education, in an accredited higher institution are required.

Specific Educational Requirements

SECONDARY SCHOOL REQUIREMENTS

Of the fifteen secondary school units required, three must be in English, two in one foreign language (ancient or modern), one in algebra,

one in geometry, one in history, and one in science (biology, botany, chemistry, or physics). Eleven of the units offered must be in English, foreign language, mathematics, science, and history.

PREMEDICAL COLLEGE REQUIREMENTS

NINETY CREDIT HOURS

1. Chemistry, sixteen credit hours as follows: (a) eight hours in general inorganic chemistry, of which at least four credit hours are laboratory work (qualitative analysis may be counted as general inorganic chemistry); (b) eight credit hours or a one-year college course of organic chemistry, including laboratory work.

2. Physics, eight credit hours, of which at least two credit hours are laboratory work. It is recommended that this course be preceded by one in trigonometry.

3. Biology, eight credit hours, of which at least four credit hours are laboratory work. This requirement may be satisfied by a course of eight credit hours in either general biology or zoology, or by four credit hours each in zoology and botany, but not by botany alone.

4. English composition and literature, six credit hours: the usual introductory college course or the equivalent. The student should develop facility in speaking and writing English.

5. Modern foreign language: a reading knowledge, preferably of French or German.

6. Electives. It is recommended that the remaining credit hours required include: (a) comparative vertebrate anatomy; (b) qualitative and quantitative chemical analysis; (c) social science and psychology.

Advanced Standing

A student who has satisfactorily attended one or two years at any other "class A" medical school, and who has the necessary preliminary educational requirements, may be admitted to advanced standing.

THE LAW SCHOOL

For the Degrees in the Professional Course

Bachelor of Laws and Juris Doctor†.*—A Bachelor's degree awarded upon completion of a four-year course in an approved college or university is required.

* No less than one-half the work necessary for graduation from an approved college or university will be accepted as satisfying the admission requirements for (1) regular students of the University in continuous attendance since the 1947 winter term registration, (2) applicants for the degree of Bachelor of Laws or Master of Laws who have completed not less than 20 months of continuous service in the armed forces of the United States during World War II and who entered the Law School prior to the fall term of 1949.

† A Bachelor's degree which includes credits for work done in this or any other Law School will not satisfy the admission requirement for this degree. All pre-legal work must be of a quality and distribution acceptable to the University.

ADVANCED STANDING

Advanced standing toward the degree of Bachelor of Laws may be granted only for work successfully completed in other Law Schools which are members of the Association of American Law Schools.

Advanced standing toward the degree of Juris Doctor will not be granted for work in other law schools.

For the Degrees in the Graduate Course

Candidates for graduate degrees must be accepted by the Committee on Graduate Studies.

*Master of Laws.**—A bachelor's degree awarded upon the completion of a four-year course in an approved college or university and the degree of Bachelor of Laws, or the equivalent, from an approved law school are required.

Master of Comparative Law.—The following are required: (1) the successful completion of and graduation from a course in arts, philosophy, letters, or sciences, equivalent to graduation from a gymnasium, lycee, or liceo (junior college); and (2) graduation in law from a recognized foreign university where training was in Civil Law.

Doctor of Juridical Science.—The following are required: (1) the degree of Juris Doctor from this Law School; or (2) the degree of Bachelor of Arts from an approved college, the degree of Bachelor of Laws or the equivalent, earned with high rank, from an approved law school, and outstanding capacity for scholarly work in the field of law.

Unclassified Students

A person eligible for admission to regular standing but not a candidate for a degree may, at the discretion of the Dean, be admitted as an unclassified student.

A person who is in good standing as a candidate for a degree in another approved law school may, at the discretion of the Dean, be admitted as an unclassified student. Work taken by an unclassified student will not be accepted for credit toward a degree at this Law School.

THE SCHOOL OF ENGINEERING

Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, Bachelor of Science in Engineering.—An acceptable certificate of graduation from an accredited secondary

* No less than one-half the work necessary for graduation from an approved college or university will be accepted as satisfying the admission requirements for (1) regular students of the University in continuous attendance since the 1947 winter term registration, (2) applicants for the degree of Bachelor of Laws or Master of Laws who have completed not less than 20 months of continuous service in the armed forces of the United States during World War II and who entered the Law School prior to the fall term of 1949.

school, or the satisfactory passing of College Entrance Board examinations in secondary school subjects selected with the approval of the Director of Admissions is required.

Nine and one-half of the fifteen units required for entrance must be distributed as follows: three in English, two in algebra, one in plane geometry, one-half in plane trigonometry, one in physics or chemistry, and two in one foreign language or history. A graduate of an approved high school who does not offer for admission the particular subjects required for the engineering curriculum, but who does present not less than fifteen acceptable units, may be admitted on condition, if such deficiency in the distribution of units does not exceed two units.

ADVANCED STANDING

Advanced standing may be granted for work successfully completed at accredited institutions of higher learning. Credit will be assigned by the School of Engineering to the extent that the work taken at previous institutions meets the requirements for the degree sought at this University, and subject to the general University regulations concerning satisfactory subsequent work.

THE SCHOOL OF PHARMACY

Bachelor of Science in Pharmacy.—An Associate in Arts degree based on the curriculum in *Pharmacy* in the Junior College (see page 59), or the equivalent is required.

A student who has received a Bachelor's degree from an accredited institution or who has completed work in the general cultural or foundational subjects of the pharmacy curriculum may be admitted to advanced standing. No more than one year of advanced standing will be granted a student from any institution other than an accredited college of pharmacy.

Master of Science in Pharmacy.—A Bachelor of Science degree from an accredited institution is required.

THE SCHOOL OF EDUCATION

For the Bachelor's Degrees

Bachelor of Arts in Education, Bachelor of Science in Home Economics, Bachelor of Science in Physical Education.—An Associate in Arts degree based on the *Education, Home Economics, or Physical Education* curriculum in the Junior College (see pages 60-61), or the equivalent from another accredited higher institution, or a certificate of graduation from an approved normal school or the equivalent is required.

For the Master's Degree

Master of Arts in Education.—A Bachelor's degree from an accredited institution, or the completion of a course of study that is the equivalent is required. A student from an unaccredited institution whose work is judged by the Faculty to be not more than twelve credit hours short of that required for an approved Bachelor's degree may remove his deficiencies while registered for the Master's degree.

For the Doctor's Degree

Doctor of Education.—The degree of Master of Arts in Education or the equivalent, and at least three years of satisfactory educational experience are required.

THE SCHOOL OF GOVERNMENT

For the Bachelor's Degree

Bachelor of Arts in Government.—An Associate in Arts degree based on the *Accounting and Business Administration*, *Foreign Affairs*, or *Statistics* curriculum in the Junior College (see page 62), or the equivalent, and a quality-point index of 2.00 for the first two years' work are required.

For the Master's Degree

Master of Arts in Government.—A Bachelor's degree from an accredited institution, or evidence of a course of study that is judged by the Faculty to be the equivalent is required. A student from an unaccredited institution may be admitted at the discretion of the Dean's Council, but he will be required to take such extra work above the minimum requirements as may be prescribed.

The Dean may permit deficiencies to be made up concurrently with work for the degree or by special examinations given under direction of a Faculty Committee. Students admitted to candidacy must have attained a quality-point index of 3.00 (a "B" average) in the courses of their undergraduate major. In special cases students who have not attained this scholastic average may take a qualifying examination with permission of the Dean.

THE DIVISION OF UNIVERSITY STUDENTS

Students 21 years of age or over who are not interested in working for a degree in this University may be considered for admission to the Division of University Students to take courses for which they have adequate preparation, as evidenced by previous scholastic records.

In special instances, with the permission of the instructor, a person

may be considered for admission as an auditor in a class without being required to take active part in the exercises or to pass examinations, but no credit will be allowed for such attendance.

THE DIVISION OF SPECIAL STUDENTS

This is a non degree-granting division of the University in which the Director of Admissions may authorize the placement of students in the process of making up entrance deficiencies to degree-granting colleges and schools of the University.

Complete credentials must be submitted and evaluated before a tentative or definite plan of make-up may be prepared.

CLASSIFICATION OF STUDENTS

REGULAR STUDENTS

Regular students are those who have met the entrance requirements for candidacy and are registered for degrees.

UNIVERSITY STUDENTS

Persons of mature age, as specified in the rules of the Division of University Students, may be admitted to this Division to pursue courses for which they have had adequate preparation.

SPECIAL STUDENTS

Special students are those who are in the process of qualifying for admission to curricula in degree-granting colleges and schools of this University.

Additional information concerning curricula, courses offered, entrance requirements, or admission procedure may be obtained from the Office of the Director of Admissions.

REGISTRATION

Before a student may be admitted to registration he must have satisfied the Office of the Director of Admissions that he is qualified for entrance to the University. (See "Admission", pages 11-19.)

A student who has previously matriculated in the University, but who has not been in attendance during the term prior to registration, should file an application for readmission in advance of registration.

Registration is for the term unless otherwise indicated on the registration paper. No registration is accepted for less than a term or one summer session.

A student may not register concurrently in The George Washington University and another institution without the permission of the dean of the college, school, or division in which he is registered in The George Washington University. Allowance of credit for work done concurrently will be at the discretion of the appropriate Committee on Admission and Advanced Standing.

TIME AND PLACE OF REGISTRATION *

Registration is conducted during the following periods: *fall term*, September 28, 29, and 30; *winter term*, February 2 and 3. Registration, except for the Law School, is conducted in Building C, 2029 G Street NW.; for the Law School, in Stockton Hall, 720 Twentieth Street NW.

REGISTRATION CHANGES AND WITHDRAWALS

For regulations governing changes in registrations and withdrawals, see pages 23, 36, and 37.

* Registration for the School of Medicine is conducted at the School of Medicine, 1335 H Street NW., between 11:00 A.M. and 5:00 P.M., September 15 and 16, 1949.

FEES AND FINANCIAL REGULATIONS

By authorization of the Board of Trustees, the following fees have been adopted:

TUITION FEES

For each credit hour for which the student registers (except work taken by a candidate for a Doctor's degree)*.....	\$12.00
For the degree of Doctor of Medicine, for two terms†.....	650.00
For the degree of Doctor of Philosophy:	
For work leading to and including the Council Fellowship examination§	360.00
For work leading to and including the final examinations§.....	360.00
For the degree of Doctor of Education:	
For work leading to and including the general examinations§.....	360.00
For work leading to and including the final examinations§.....	360.00
For the degree of Doctor of Juridical Science:	
For work leading to and including the final examinations§.....	360.00

ADDITIONAL COURSE FEES

In certain courses additional fees, such as laboratory and material fees, are charged as indicated in the course descriptions. These fees are charged by the term and, unless otherwise indicated, may be defrayed in three payments when the tuition is paid in this manner. Breakage of apparatus is charged against the individual student. When breakage is in excess of the normal amount provided for in the laboratory fee the individual student will be required to pay such additional charges as are determined by the department concerned.

GRADUATION FEES

Wherein the degree of Associate in Arts is granted.....	\$10.00
Wherein a degree other than the Associate in Arts degree is granted	20.00

FEE FOR BINDING MASTER'S THESIS.....	4.00
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FEE FOR THE PROFESSIONAL THESIS IN THE SCHOOL OF ENGINEERING....	50.00
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An annual fee; one half payable in advance at the time of each registration.

FEE FOR PRINTING AND FILING SUMMARY OF DOCTORAL DISSERTATION....	50.00
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* Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the second academic year, it must be registered for again, and tuition paid on the same basis as for a repeated course.

† Registration in the School of Medicine is for a period of two terms. After the student has entered the course of instruction he is obligated for the full tuition for two terms. No part of the tuition will be refunded upon withdrawal or dismissal for any cause.

§ When a limited schedule is carried which extends the time of either the preparation period or the examination period to more than one year, the proportionate part of the charge may be fixed by the Comptroller.

SPECIAL FEES

Application fee, charged all applicants for admission, non-refundable	3.00
Aptitude Test fee	1.00
Late-registration fee, charged each student who fails to register within the designated period	5.00
Withdrawal fee, charged each student who preregisters and withdraws prior to the regular registration	5.00
Service fee, charged each student for late payment of tuition (see "Payment of Fees")	1.00
Reinstatement fee, charged each student who is reinstated after suspension for delinquency in fees	5.00
Residence fee, charged each student wishing to maintain "in residence" status during any term of absence from the University	12.00
For special physical examination	2.00
Student Bar Association fee, charged each student in the Law School for each term or any part thereof except the summer term	2.00
For each examination to qualify for advanced standing and for each special examination	5.00
Laboratory checkout fee, charged all students in chemistry and pharmacy courses who fail to check out of the laboratory by the time set by the instructor	2.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of three certified transcripts of record, if and when desired; (2) the services of the Placement Office; (3) the use of University library facilities, except as otherwise designated; (4) gymnasium privileges; (5) admission to all athletic contests, unless otherwise specified; (6) subscription to the *University Hatchet*, the student newspaper; (7) admission to University debates; (8) medical attention and hospital services as described under the Department of Health Administration. These privileges, however, with the exception of the issuance of transcripts, terminate, and a student is no longer in residence, when he withdraws or is dismissed from the University.

PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each term are due and payable in advance at the time of registration.

In exceptional cases, subject to the approval of the Comptroller, the student may sign a contract for term charges, except for fees payable in advance, permitting payments as follows:

Fall Term.—One third at the time of registration; one third on November 3; one third on December 3.

Winter Term.—One third at the time of registration; one third on March 3; one third on April 3.

A student who fails to meet payments when due, but who pays his fees

on or before the tenth day of the month in which payment is due, is charged a service fee of \$1. A student who fails to meet payments by the tenth day of the month in which payment is due will be automatically suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5.

A suspended student may not be reinstated for the term after two weeks from the date of suspension. Applications for reinstatement are to be made to the dean of the college, school, or division in which the student is registered.

An auditor pays all fees chargeable to the student registered for credit except the late-registration fee.

WITHDRAWALS AND REFUNDS

Application for withdrawal from the University or for change in class schedule must be made in person or in writing to the dean of the college, school, or division in which the student is registered. Notification to an instructor is not an acceptable notice (see "Withdrawal", pages 36 and 37).

In authorized withdrawals and changes in schedules, financial adjustments will be made as follows:

Fall Term.—Withdrawal dated on or before October 31, cancellation of two-thirds of tuition charges; withdrawal dated on or before November 30, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to November 30.

Winter Term.—Withdrawal dated on or before February 28, cancellation of two-thirds of tuition charges; withdrawal dated on or before March 31, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to March 31.

In no case will a refund be made of the first third of the total tuition charges unless the registration is in advance and the course is dropped before the regular registration day. In this case a withdrawal fee of \$5 is charged and tuition fees refunded. In no case will tuition be reduced or refunded because of nonattendance upon classes.

Payment applies only to the term for which a registration charge is incurred and in no case will this payment be credited to another term.

Any student in chemistry who fails to check out of the laboratory on or before the date set by the instructor, unless excused by the instructor, will be charged a checkout fee in the amount of \$2.00. A student who drops a course before the end of the term must check out of the laboratory at the next regular laboratory period.

Authorization to withdraw and certification for work done will not be given a student who has not a clear financial record.

FELLOWSHIPS, SCHOLARSHIPS, PRIZES, LOANS

FELLOWSHIPS

The following fellowships are available to graduate students. Applications should be submitted for consideration not later than April 1 preceding the period for which the fellowship is to be awarded.

The applicant for a University Teaching Fellowship or a Special Fellowship is expected to be a prospective candidate for the degree of Doctor of Philosophy, and to have the Master of Arts degree, or the equivalent, in the general field of his future doctoral study and research. Forms on which to make application for these fellowships may be obtained from the Chairman of the Graduate Council.

University Teaching Fellowships.—These are assigned for the academic year 1949-50 in the following departments of instruction: Bacteriology, Biochemistry, Botany, Chemistry, Economics, English, History, Physics, Psychology, Romance Languages, and Statistics. Each fellow receives an annual stipend, plus full tuition in the Graduate Council for whatever schedule of study or research his fellowship duties permit him to carry. The occupant of each of these fellowships renders a designated unit of service to the department of instruction in his major field of doctoral study, usually in classroom or laboratory assignments.

Special Fellowships.—A number of special fellowships are supported by endowment, and are awarded to doctoral students of unusual promise and ability. The stipend is not fixed but varies in amount with the need of the individual receiving the award. In applying for one of these fellowships it is advantageous that the student appear personally for an interview with the Chairman and such other members of the Graduate Council as would be interested in the research investigations proposed. These fellowships include the following:

Isabella King Research Fellowship.—Of the value of \$1,200 annually, offered in the general field of biology, and intended to foster research for which the libraries and scientific establishments in Washington provide special facilities.

Thomas Bradford Sanders Fellowships.—Established by Miss Addie Sanders in memory of her brother, Thomas Bradford Sanders, and offered in various academic fields of study, with stipends designated by the Chairman of the Graduate Council.

Soroptimist Fellowship.—This fellowship of \$1,500 was established in 1948 by the South Atlantic Region of the American Federation of

Soroptimist Clubs, an international organization of executive business and professional women. Applicants are expected to be prospective candidates for a graduate degree in one of the following fields of Government: Foreign Affairs, Accounting, Business Administration, Business and Economic Statistics, Government and Economic Policy, Public Administration, and Personnel Administration. Selection of the candidate will be based upon the personal and academic qualifications of the applicant. Application should be addressed to the Office of the School of Government.

SCHOLARSHIPS

Scholarships are awarded for two terms unless otherwise specified and are credited in equal parts for each term. Each holder must carry a full schedule of academic work (fifteen credit hours or in the professional schools the full prescribed schedule) during the period for which the scholarship is awarded. Except in the case of the Columbian Women's Scholarships, the High School Scholarships, the Student Activities Scholarships, and the Trustee Scholarships, applicants must have established an academic record in courses at this institution and should apply on prescribed forms which must be filed in the Office of Chairman of the Committee on Student Loans and Scholarships not later than May 1 preceding the academic year for which the scholarship is to be awarded. Further information may be obtained from the Chairman of the Committee on Student Loans and Scholarships.

Byron Andrews Scholarship.—This scholarship, in the amount of \$150, established in 1920 by Mrs. Belle Fisk Andrews in memory of her husband, Byron Andrews, is available "for ambitious and needy students, who desire to pursue courses in English, Latin, journalism, history, literature, or political science".

Emma K. Carr Scholarships.—Three scholarships in the amount of \$300 each and seven in the amount of \$100 each, established in 1932 by Mrs. Emma K. Carr, are awarded annually to "young men (of the white race) for undergraduate or postgraduate work, considering character, capacity, and need".

Henry Harding Carter Scholarship.—This scholarship, established in 1896 by Mrs. Maria M. Carter in memory of her husband, Henry Harding Carter, is of the annual value of \$150 and may be awarded to a deserving student who is preparing for the civil-engineering profession.

Maria M. Carter Scholarship.—This scholarship, in the amount of \$30 to be awarded annually to a young man, was given to the University in 1871 by Mrs. Maria M. Carter.

Isaac Davis Scholarship.—This scholarship, in the amount of \$30 to be awarded annually, was given to the University in October 1869 by

the Honorable Isaac Davis, of Massachusetts. Nominations for the scholarship may be made "by the founder or his eldest lineal descendant". In case no such nomination is made, the scholarship is to be awarded by the University.

Charles Worthington Dorsey Memorial Scholarship.—This scholarship, established as a memorial to Charles Worthington Dorsey, Bachelor of Laws, '81, Master of Laws, '82, is awarded upon the recommendation of the Faculty of the Law School to a needy and promising graduate of Columbian College or other division of the University, with a Bachelor of Arts or other equivalent degree, who has maintained an average of *B* as an undergraduate student and who desires to pursue the study of law as a full-time student. The scholarship covers tuition for the course leading to the first degree from the Law School, Bachelor of Laws or Juris Doctor, provided that the holder maintains an average of *B*. The right is reserved to suspend the benefits of the scholarship for cause at any time. The scholarship is awarded ordinarily once every three years.

Robert Farnham Scholarship.—This scholarship, in the amount of \$30 to be awarded annually to a student in Columbian College, was given to the University in 1871 by Mrs. Robert Farnham.

Elma Lewis Harvey Scholarship.—This scholarship, of the annual value of \$150, was founded in 1921 by Mrs. Emma Elizabeth Harvey in memory of her daughter, and is to be awarded every four years, or as often as vacant, to a young woman student in Columbian College of the Protestant faith and of the Caucasian race who shall be selected for scholarship and moral qualifications.

High School Scholarships.—Two University scholarships for study in the liberal arts, one for a man student, the other for a woman, are assigned for award to each of the following schools: Anacostia, Central, Coolidge, Eastern, McKinley, Roosevelt, Western, and Woodrow Wilson High Schools (District of Columbia); Bethesda-Chevy Chase High School (Maryland); Washington-Lee and George Washington High Schools (Virginia). The *Amos Kendall Scholarship*, established by the late Honorable Amos Kendall, is one of the two assigned to the Central High School. Each of the above scholarships is awarded annually, on the recommendations of a committee consisting of the Dean of the Junior College of The George Washington University, the principal of the high school concerned, and an alumnus of both the high school and the University, to a member of the graduating class who intends to enter the Junior College and to continue in Columbian College. A principal and an alternate may be recommended.

The holders of these scholarships are exempt from tuition fees, but are charged laboratory, graduation, and other fees. The scholarships are valid for four academic years of undergraduate study. The principal,

or, if the principal declines, the alternate, must register in September following the award.

To retain any high school scholarship a student must carry a full program of study in the liberal arts (a full program being defined as at least fifteen hours of work each term), unless otherwise determined in individual cases by the Committee on Student Loans and Scholarships upon recommendation of the dean of the college concerned. An average of *B* and a high standard of deportment must be maintained. After registering, the holder of a high school scholarship is expected to complete four academic years in the University. If he fails to continue its use, the scholarship will not be reassigned.

A. Morehouse Scholarship.—This scholarship was established by Mr. A. Morehouse, in 1861. It carries an annual stipend of \$45, which is available for an undergraduate "intending to enter the Christian ministry".

Newspaper Scholarships.—Four scholarships are to be awarded each year to candidates recommended by the following newspapers: *The Washington Daily News*, *The Washington Post*, *The Evening Star*, and *The Times-Herald*. These scholarships cover tuition for four years, but do not include laboratory fees, graduation fee, or other special fees.

Paul Pearson Scholarship.—This scholarship, established in 1940 by bequest of Paul Pearson and "to be known as the Dr. Paul Pearson award", is in the amount of \$85 to be awarded annually to a student in the School of Pharmacy.

Lula M. Shepard Scholarship.—This scholarship, established in 1946 by bequest of Lula M. Shepard, is in the amount of \$300 and is awarded annually to a "worthy Protestant student desiring to enter the Foreign Service Department of the School of Government".

David Spencer Scholarship.—This scholarship of approximately \$200 was established in 1918 by Miss Louisa J. Spencer.

Mary Lowell Stone Scholarship.—This memorial scholarship, established in 1893 is in the amount of \$60, to be awarded annually to a woman student of science in Columbian College.

Student Activities Scholarships.—The University has established a limited number of Activities Scholarships for men, which will be awarded to approved applicants therefor by the Faculty Committee on Student Loans and Scholarships upon the basis of (1) need, (2) good character, (3) demonstrated aptitude for leadership, and (4) scholarship of the applicant.

Such scholarships are granted for one academic year. They may be continued, however, upon the basis on which they were granted. Recipients of Activities Scholarships must maintain the required scholastic average of the school or division in which they are registered.

The time for filing applications for Activities Scholarships and the

terms of such scholarships may be ascertained by inquiry at the office of the Chairman of the Committee on Student Loans and Scholarships.

Charles Clinton Swisher Scholarship.—This scholarship, established in 1941 by the late Professor Charles Clinton Swisher, is in the amount of \$250 and is awarded annually to a student of medieval history.

Trustee Scholarships.—Five scholarships are awarded each year, upon the recommendation of regional alumni clubs, to outstanding male graduates of accredited high schools. The scholarships cover tuition costs for four terms of full-time work but do not include special fees such as laboratory charges, room, board, or other expenses. To retain the scholarship, the student must maintain a *B* average. Additional information may be obtained from the Alumni Secretary.

William Walker Scholarship.—This scholarship was established in 1824 by William Walker, Esq. It carries an annual stipend of \$75, which is available for an undergraduate intending to enter the Christian ministry.

John Withington Scholarship.—This scholarship was established in 1830 by the New York Baptist Theological Seminary. It has an annual stipend of \$60.

Ellen Woodhull Scholarship.—This scholarship, established by the late Ellen M. E. Woodhull, is in the amount of \$20, to be awarded annually to a student in Columbian College.

THE COLUMBIAN WOMEN SCHOLARSHIP FUNDS

The Columbian Women Scholarships are awarded by the Scholarship Committee of the Columbian Women. Applications for these scholarships should be addressed to the Chairman of the Scholarship Committee, the Columbian Women, The George Washington University, Washington 6, D.C., not later than May 15 preceding the academic year for which the scholarship is to be awarded; or, in the case of award for the winter term, not later than January 1.

Nellie Maynard Knapp Scholarship Fund.—The income from this fund of \$5,000, established in 1915 in memory of a former president, Mrs. Martin A. Knapp, is available for scholarships for women.

Founders of Columbian Women Scholarship Fund.—The income from this fund of \$5,000, established in 1920, is available for scholarships.

Lillian Young Herron Scholarship Fund.—The income from this fund of \$5,000, established in 1925 and named in 1930 in memory of a former president, is available for scholarships.

Elizabeth V. Brown Scholarship Fund.—This fund of \$1,200 was established in 1925 by the College Women's Club of Washington, D.C., in memory of the late Elizabeth V. Brown. The scholarship granted thereunder is available for a woman student in the School of Education.

College Women's Scholarship Fund.—The income from this fund of

\$500, established in 1926 through the courtesy of the College Women's Club of Washington, D.C., is available for scholarship aid.

Lewes D. and Myrtie H. Wilson Memorial Scholarship Fund.—This fund of \$1,000 was established by Miss Elizabeth Wilson in 1926 as a memorial to her parents, Lewes D. and Myrtie H. Wilson. The income is available for a scholarship in the School of Medicine.

Grace Ross Chamberlin Scholarship Fund.—The income from this fund of \$2,300, established in 1932 in honor of a former president, is available for scholarship aid.

PRIZES

Alpha Chi Sigma Prizes.—Alpha Pi Chapter of Alpha Chi Sigma Fraternity offers annually the following prizes:

A "Handbook on Chemistry and Physics" is awarded to each of the three students who carry at least eighteen credit hours during the freshman year and attain the highest averages in freshman chemistry.

The name and year of graduation of the student who has attained the highest quality-point index in courses in chemistry will be inscribed on a bronze plaque. The winner of this award will have had at least sixteen hours of chemistry including the final semester at The George Washington University.

Alpha Delta Pi Prize.—Alpha Pi Chapter of Alpha Delta Pi Fraternity offers an annual prize of \$10 to the woman member of the junior class with the most outstanding record in scholarship, extra-curricular activities, and service to the University.

Alpha Kappa Psi Prize.—Beta Mu Chapter of Alpha Kappa Psi Fraternity awards annually a medallion to the male student who has completed ninety credit hours at The George Washington University and has attained the highest average grade of the students enrolled in economics, business administration, public accounting, public finance, and foreign commerce.

American Institute of Chemists Prize.—The District of Columbia Chapter of the American Institute of Chemists offers an annual prize of a medal and junior membership in the American Institute of Chemists to that graduating student, majoring in chemistry, who excels in scholarship and in the personal qualities of integrity and leadership.

Byrne Thurtell Burns Memorial Prize.—This prize, in the amount of \$30, is awarded to the senior majoring in chemistry who shows the greatest proficiency in organic chemistry, as evidenced by a comprehensive examination, and who possesses such qualifications of mind, character, and personality as to give promise of future achievement.

Chi Omega Prize.—Phi Alpha Chapter of Chi Omega Fraternity offers annually a prize of \$25 to be awarded to the woman student in the graduating class with the highest record in the following social sciences:

economics, sociology, political science, and history; combined with general excellence.

Colonial Dames Prize.—The Society of the Colonial Dames of America, Chapter III, offers annually a medal to be awarded to the student who, having maintained a record of distinction in American history, submits the best essay upon a topic in Colonial history.

John Henry Cowles Prizes.—These prizes, founded in 1943 by John H. Cowles, Grand Commander of the Supreme Council of the Thirty-third Degree (Mother Council of the World) of the Ancient and Accepted Scottish Rite of Freemasonry, Southern Jurisdiction of the United States of America, are awarded annually to the two best scholars in the senior class of the School of Government. The prizes are as follows: first prize, \$60; second prize, \$30.

DeWitt Clinton Croissant Prize.—This prize, established by the late Professor DeWitt Clinton Croissant, consists of \$30, which is awarded annually to the undergraduate student who as a member of one of the University courses in drama or as a participant in University dramatics submits to the English Department the best essay on drama or the theatre.

E. K. Cutter Prize.—The E. K. Cutter Prize in English was established by the late Marion Kendall Cutter "for excellence in the study of English." An annual prize of \$30 is awarded to the member of the graduating class whose record in English, combined with general excellence, shows most marked aptitude for and attainment in English studies.

Daughters of the American Revolution Prize.—This prize, established by the Daughters of the American Revolution of the District of Columbia, consists of \$15, which is awarded annually to the student who, having maintained a record of distinction in American history, submits the best essay upon a topic in the period of the American Revolution.

Isaac Davis Prizes.—These prizes, established by the Honorable Isaac Davis, of Massachusetts, in 1847, are awarded annually to such members of the senior class as shall have made the greatest progress in public speaking during their connection with the University. The prizes are as follows: first prize, \$15; second prize, \$10; third prize, \$5.

The award of these three prizes is determined by a public-speaking contest in which the participants deliver original orations. Only members of the senior class who are candidates for the degree of Bachelor of Arts or Bachelor of Science are eligible to compete.

William Thornwall Davis Prize.—This prize, established by the late Dr. William Thornwall Davis and consisting of monographs dealing with the field of ophthalmology, is awarded annually to the student doing the most outstanding work in ophthalmology.

Delta Gamma Prize.—The District of Columbia Alumnae Chapter of Delta Gamma offers annually a prize of \$25, to the woman in the

graduating class who has achieved the highest scholastic average in her four-year college course.

Delta Zeta Prize.—Delta Zeta Sorority offers annually a prize of \$10, to be awarded to the student maintaining the highest average in the first year's work in botany.

Ellsworth Prize.—The Ellsworth Prize of \$25, established by the late Mr. Fritz von Briesen, is awarded to the student doing the best work in the subject of Patent Law Practice.

Elton Prize.—The Elton Prize, established by the Reverend Romeo Elton, of Exeter, England, consists of \$10, awarded annually to the senior student having the highest average in the Greek language and literature.

Jess Frederick Essary Prize in Journalism.—This memorial prize in the amount of \$100, established in 1948 by Helen Essary Murphy, is awarded annually to a student who has given promise of sound citizenship and ability in "forthright reporting" in student publication and/or under the jurisdiction of the Department of Journalism. The selection of the recipient will be made by a committee composed of the President of the University and two members of the faculty.

Joshua Evans III Prize in the Political and Social Sciences.—This memorial prize in the amount of \$35, "established by friends because of an outstanding life", is awarded annually to that man in the graduating class of The George Washington University "who has demonstrated his signal ability in the social and political sciences and who has given promise of the interpretation of that ability in good citizenship among his fellows". The selection of the recipient will be made by the President of the University and a committee from the Faculty of the Division of the Social Sciences.

Willie E. Fitch Prize.—The Willie E. Fitch Prize established in 1883 by James E. Fitch, Esq., in memory of his son, consists of \$40, which is awarded annually to a senior student for the best examination in chemistry.

Alice Douglas Goddard Prize.—This prize of \$40 was established in 1941 by Frederick Joseph Goddard of Georgetown, D.C., in memory of Alice Douglas Goddard, and is awarded annually to the upper division student making the highest average in American literature.

Edward Carrington Goddard Prize.—This prize, consisting of \$40, was established in 1923 by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard, of Georgetown, D.C., in memory of Edward Carrington Goddard, class of '81, and is awarded to the junior or senior student making the highest average in the French language and literature.

James Douglas Goddard Prize.—This prize, consisting of \$40, was established in 1923 by Mary Williamson Goddard, Alice Douglas God-

dard, and Frederick Joseph Goddard, of Georgetown, D.C., in memory of James Douglas Goddard, class of '01, and is awarded to the senior student making the highest average in pharmacy.

Morgan Richardson Goddard Prize.—This prize, consisting of \$40, was established in 1923 by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard, of Georgetown, D.C., in memory of Morgan Richardson Goddard, and is awarded to the junior or senior student making the highest average in the following fields: economics, business administration, foreign commerce, and public accounting.

Gardiner G. Hubbard Memorial Prize in United States History.—This prize of \$30 was established by Mrs. Gertrude M. Hubbard in memory of her husband, the late Gardiner G. Hubbard, and is awarded annually to that member of the graduating class majoring in history who has maintained the highest standing in courses in United States history.

Kappa Kappa Gamma Prize.—Kappa Kappa Gamma Sorority offers annually a prize of \$10 to the full-time freshman who achieves the best record in Botany 1 and 2.

John Bell Larnier Prize.—This prize, established by the bequest of John Bell Larnier, consists of a medal which is awarded annually to that member of the graduating class in the Law School who attains the highest average grade in the entire course for the degree of Bachelor of Laws.

Mortar Board Prize.—This prize, consisting of a silver cup, is awarded annually to the woman student in the sophomore class having a scholarship average of B or higher and the most outstanding record in activities.

Omicron Delta Kappa Prize.—Alpha Delta Circle of Omicron Delta Kappa Fraternity offers annually a plaque to be awarded to "that member of the senior class (of Columbian College) who throughout his course has done the most constructive work in the furtherance and upbuilding of the University student activities".

John Ordronaux Prizes.—These prizes were established in 1909 by the bequest of John Ordronaux.

The amount of \$70 is awarded to the member of the graduating class in the School of Medicine who has the highest scholastic standing.

The amount of \$35 is awarded annually to the student in the Law School who has attained the highest average grade in the first year, full-time course; and \$35 to the student who has attained the highest average grade in the second-year, full-time course.

Phi Eta Sigma Prize.—The George Washington University Chapter of Phi Eta Sigma offers each year to the male student attaining the highest scholastic average in his first full term of work, a choice book selected from the field of the recipient's major interest. The winner's

name will be engraved on a plaque in the Office of the Dean of the Junior College.

Phi Sigma Kappa Prize.—Phi Sigma Kappa Fraternity offers annually a silver cup to the winner of an oratorical contest, open to all freshmen.

Pi Beta Phi Prize.—A prize of \$20 is awarded annually by the District of Columbia Alpha Chapter of Pi Beta Phi Fraternity to that woman member of the senior class who throughout her college course has done the most constructive work in the promotion of student activities among the women of the University.

Ruggles Prize.—The Ruggles Prize, established by Professor William Ruggles in 1859, consists of \$15 awarded annually to a candidate for a baccalaureate degree for excellence in mathematics.

Sigma Kappa Prize.—Zeta Chapter of Sigma Kappa Sorority offers an annual prize of \$10 to the student who passes the best examination in General Chemistry.

Sigma Tau Prize.—Xi Chapter of Sigma Tau Fraternity offers annually a medal to be awarded to that member of the freshman class in the School of Engineering who maintains the highest scholastic standing in the work of the entire year.

Staughton Prize.—The Staughton Prize, established by the Reverend Romeo Elton, consists of \$10 awarded annually to the senior student making the best record in the Latin language and literature.

James MacBride Sterrett, Jr., Prize.—This prize, established in 1911 by Professor James MacBride Sterrett in memory of his son, consists of books awarded annually to that student who obtains the highest average in Physics 6, 7, and 8.

Charles Clinton Swisher Historical Club Prize.—This prize, established in 1936 by the Charles Clinton Swisher Historical Club and augmented in 1942 by the bequest of the late Professor Charles Clinton Swisher, is an annual prize of \$30 awarded to the student who submits the best essay covering some phase of medieval history.

Theta Tau Activities Plaque.—Gamma Beta Chapter of Theta Tau Fraternity offers annually a plaque to be awarded to that member of the senior class who has the most outstanding record in activities in the School of Engineering during the entire period of his attendance.

United Daughters of the Confederacy Prize.—This prize, established in 1946 by the General Lewis A. Armistead Chapter, number 2136, United Daughters of the Confederacy, consists of \$25, which is awarded annually to the student showing the greatest proficiency in the history of the Southern States.

Thomas F. Walsh Prize.—This prize, established in 1901 by Thomas F. Walsh, consists of \$30 awarded annually to that student who submits the best essay in Irish history.

Alexander Wilbourne Weddell Prize.—From a fund established in

1923 by Mrs. Virginia Chase Weddell, an annual prize of \$150 is awarded to a candidate for a degree who writes the best essay on the subject of "the promotion of peace among the nations of the world". The prize essays shall become the property of the University and shall not be printed or published without the written consent of the University. The University reserves the right to withhold the award if no essay attaining the required degree of excellence is submitted.

LOAN FUNDS

The following loan funds are available to students in the University in accordance with the qualifications placed thereon by the donors. Inquiries should be directed to the Office of the Comptroller.

University Student Loan Fund.—The Trustees of The George Washington University have established a loan fund amounting to \$10,000.

Daughters of the American Revolution Loan Fund.—The District of Columbia Chapters of the Daughters of the American Revolution have established an endowment fund of \$5,000, the income (\$2,666.76) of which is available for interest-bearing loans to descendants of patriots of the American Revolution.

Home Economics Loan Fund.—This fund in the amount of \$352.35, contributed by the D. C. Home Economics Association, is available for loans to senior girls majoring in Home Economics.

Kellogg Medical School Loan Fund.—The W. K. Kellogg Foundation in Battle Creek, Michigan, has established a fund in the amount of \$15,920.83 for loans to students in the School of Medicine.

Knights Templar Educational Loan Fund.—This fund, contributed and administered by the Grand Commandery of Knights Templar of the District of Columbia, is available for loans to students, preferably in the upper classes, who are residents of the District of Columbia.

Law Association Loan Fund.—The George Washington Law Association has established a loan fund in the amount of \$768 for loans to students in the School of Law.

Henry Strong Educational Foundation.—The Henry Strong Educational Foundation, established at Chicago under the will of General Henry Strong, makes available a fund for loans to both men and women students under the age of twenty-five years.

Henry Strong-William A. Maury Loan Fund.—This fund, also allocated from the funds of the Henry Strong Educational Foundation, is to be loaned to students under the age of twenty-five years in the George Washington University Law School.

Sutherland Medical School Loan Fund.—This fund, in the amount of \$1,200 and established by Mrs. Rose L. Sutherland, is available for loans to students in the School of Medicine.

REGULATIONS

A student enrolled in the University is required to conform to the University regulations and to comply with the rules and regulations of the college, school, or division in which he is registered.

If a student knowingly makes a false statement or conceals material information on an application for admission, registration card, or any other University document, his registration may be canceled and he will be ineligible (except by special action of the Faculty) for subsequent registration in any unit of the University.

ATTENDANCE

A student is not permitted to attend classes until registration has been completed and fees due have been paid. Regular attendance is required. A student may be dropped from any course for undue absence. Tuition will not be refunded or reduced because of non-attendance.

A student who has been suspended, either for delinquency in payment of fees or for any other reason, is not permitted to attend classes during the period of suspension.

For further regulations regarding attendance, consult the announcements of the several colleges and schools.

CONTINUOUS REGISTRATION

A student who withdraws or is suspended, or is otherwise absent from the University for one term or more, may re-enter and continue his work only under the rules and regulations in force at the time of his return. With the approval of the dean of the college or school concerned, a student may be granted leave of absence; such student should, however, remain technically in residence by paying the residence fee for each term he is absent.

For the purpose of this regulation, the summer sessions will not be considered a term.

SCHOLARSHIP REQUIREMENTS

A student who fails to maintain the scholarship requirements of the college, school, or division in which he is registered may be dismissed from the University.

GRADES

Grades are not given out by instructors but are mailed to the student through the office of the Registrar at the close of each term. Upon

request, a copy of the student's grades will be forwarded to his parent or guardian.

The following grading system is used: *A*, excellent; *B*, good; *C*, average; *D*, passing; *F*, failing; *Inc.*, incomplete (The grade "Incomplete" is a temporary grade assigned when all the required work of a course has not been completed and a satisfactory explanation has been given to the instructor.); *W*, withdrawn (*W* is followed by a letter grade indicating the quality of work the student was doing at the time of withdrawal); *FW*, failure for unauthorized withdrawal. (See "Withdrawal", below.) A course failed must be repeated with a passing grade in order to be credited. No student may repeat for credit a course in which he has received a grade of *D* or above. A grade of "incomplete" cannot be altered after the lapse of one calendar year except by action of the Faculty.

For graduate work, grades are indicated as "satisfactory", "unsatisfactory", or "incomplete".

For the grading systems of the Law School and the School of Medicine, see the explanations in the announcements of those schools.

QUALITY-POINT INDEX

Quality points are computed from grades as follows: *A*, four points; *B*, three points; *C*, two points; *D*, one point; *F*, no points, for each credit hour for which the student has registered.

Scholarship is computed in terms of the quality-point index, obtained by dividing the number of quality points by the number of credit hours for which the student has registered, both based on the complete collegiate record. Courses marked *W* or *Inc.* are not considered in determining the index. Grades in courses taken at another institution are not considered in computing the quality-point index.

EXAMINATIONS

Examinations are scheduled in all courses at the end of each term or at the completion of the course.

A student guilty of dishonesty in examinations may be deprived of credit for the courses in which dishonesty occurs and may be dismissed from the University.

For further regulations regarding examinations, consult the announcements of the several colleges, schools, and divisions.

WITHDRAWAL

A student who is obliged to withdraw from the University or from a course must immediately notify the dean of the college, school, or division in which he is registered.

Withdrawal from a course or from the University, *without academic or financial penalty*, requires the permission of the dean. Permission to withdraw from the University will not be granted a student who has not a clear financial record. (See "Fees and Financial Regulations", pages 21-26.)

Withdrawal between October 31 and the end of the fall term and between February 28 and the end of the winter term is permitted only in exceptional cases.

ACADEMIC AND FINANCIAL PENALTIES

The grade of FW (failing) will be given in a course dropped without the approval of the dean.

All charges for courses dropped without the approval of the dean must be met by the student. Reporting the dropping of a course to an instructor does not effect its discontinuance.

CHANGES IN PROGRAM OF STUDIES

A student may not change or drop (see "Withdrawals", above) courses or change his status to that of auditor except with the approval of the dean of the college, school, or division in which he is registered, upon presentation of adequate reasons for such changes.

Change from one section to another of the same course or from one major subject to another within the same college or school may be made with the approval of the dean. All requirements specified in the course of study to which the change is made must be satisfied before graduation.

Transfer from one college, school, or division to another may be made only with the approval of the deans concerned. Applications for such change should be made on the proper form, obtainable in the Office of the Director of Admissions, where it should be filed.

CREDIT

Credit toward a degree is given only after regular registration for and satisfactory completion of the required work of classes in the University, or upon the granting of advanced standing in accordance with the regulations of the several colleges, schools, and divisions.

On request the Registrar will issue to the student a balance sheet showing the amount of work completed and the amount necessary to complete the requirements for a degree.

In special instances, a person who has been admitted to the University may be registered, with the permission of the instructor, as an "auditor" in a class. An auditor is not required to take active part in the exercises or to pass examinations, but no credit will be allowed for such attendance.

TRANSCRIPTS OF RECORD

Official transcripts of student records will be forwarded on request to other institutions. Unofficial copies of records will be issued to the student on request. No charge is made for the first three transcripts; a fee of one dollar is charged for each one thereafter. No certificate of work done will be issued for a student who does not have a clear financial record.

SUMMER SCHOOL CREDIT

A student who plans to attend summer school sessions at another institution with the intention of having credits so obtained apply toward graduation from this University must first secure the written approval of the dean of his college or school. In no event will such credits be recognized to an amount in excess of that which might be earned in a similar period in this institution.

PHYSICAL EDUCATION REQUIREMENTS

Students in the Junior College and freshmen and sophomores in the School of Engineering are required to take Physical Education 1-2 and 11-12 unless they are registered for less than 9 credit hours or unless regular employment during the day makes it necessary to take all classes during the evening hours.

Any other exemptions will be granted only upon written petition which has been recommended by the physical education department concerned and approved by the dean of the college or school in which the student is registered.

A student entering the University with advanced standing is not exempt from the physical education requirements unless he has satisfactorily met the requirements elsewhere. Courses in military training are not accepted in satisfaction of these requirements.

The required medical and physical examinations, as specified by the departments of physical education, will be arranged at the time of registration.

GRADUATION REQUIREMENTS

To be recommended for graduation a student must have met the admission requirements of the college or school in which he is registered, completed satisfactorily the scholarship, curriculum, residence, and other requirements for the degree for which he is registered, and be free from all indebtedness to the University.

Application for Graduation.—Application for a degree should be filed in the Office of the Registrar at the time of registration for the first term of the senior or final year and may not be filed later than the date specified in the University calendar.

Scholarship.—In all undergraduate divisions of the University the scholarship requirement for graduation is a quality-point index of at least 2.00.

The graduate student must meet the scholarship requirements for the particular degree for which he is registered.

Curriculum.—Curriculum requirements for each degree are stated under the college or school offering work in preparation for the degree.

Residence.—In all undergraduate divisions of the University (except the Junior college where fifteen credit hours are ordinarily required) a minimum of one year, or thirty credit hours, must be completed in residence. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than thirty weeks. Unless special permission is granted by the dean of the college or school concerned to pursue work elsewhere, the work of the senior or final year must be completed in residence.

The graduate student must meet the residence requirements for the particular degree for which he is registered.

Attendance and Conduct.—The University reserves the right to refuse to confer a degree upon a candidate whose attendance or conduct has been unsatisfactory.

Thesis or Dissertation.—A thesis or dissertation submitted in partial satisfaction of requirements for the Master's degrees, the professional degrees in engineering, the degree of Doctor of Education, the degree of Doctor of Juridical Science, or the degree of Doctor of Philosophy must be presented in its final form to the dean of the college or school concerned not later than the date specified in the University calendar. Three* copies of each thesis or dissertation are required, one typewritten original and two legible and complete carbon copies. Detailed instructions for the styling of all theses and dissertations should be obtained from the appropriate dean.

Accepted theses or dissertations, with accompanying drawings, become the property of the University and are deposited in the University Library, where the duplicate copies are bound and made available for circulation. Permission to publish or adapt material in the thesis or dissertation must be secured from the appropriate faculty.

Presence at Graduation.—A candidate is required to be present at the graduation exercises unless written application for graduation in absentia is approved by the dean of his college or school.

HONORS

With distinction.—In all undergraduate divisions of the University the degree may be conferred "with distinction", at the discretion of the Faculty, if a student attains a quality-point index of 3.50 or higher on all work taken at this institution except that taken during the term im-

* In the School of Education, four copies.

mediately preceding the granting of the degree. To be eligible for this honor a student must have completed at this institution at least one-half of the work required for the degree.

Special Honors.—Special honors may be awarded by the Faculty to any member of the graduating class for outstanding achievement in the student's major field of work on recommendation of the major department, under the following regulations:

1. The student must have his candidacy for special honors approved by the faculty member representing the major department or field not later than the beginning of the senior year.

2. The student must meet such other conditions as may be set at the time his candidacy is approved.

3. No student will be awarded special honors unless he has a quality-point index of at least 3.00 on all work taken at this institution except that taken during the term immediately preceding the granting of the degree.

4. To be eligible for honors a student must have completed at this institution at least one-half of the work required for the degree prior to the beginning of the term immediately preceding the granting of the degree.

THE LIBRARY

A student registered in the University is entitled to the reference use of the University Library. The University Membership Card, issued upon the payment of fees, must be presented as identification.

Library books, with the exception of those in the Law and Medical collections, may be drawn for home use for a period of two weeks. Any book which does circulate is subject to recall by the Librarian at any time. Reserve books and periodicals for collateral reading must be used in the reading rooms when the Library is open. With special permission they may be drawn for overnight use when the Library closes. A fine of twenty-five cents will be charged for the first hour or fraction of an hour and five cents for each hour or fraction thereafter that a reserve book is overdue. Grades of a student will be withheld until his library record is clear.

HOURS

The University Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.

The Law Library is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday, 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.

The Medical Library is open from 9:00 A.M. to 9:00 P.M. each class day (Saturday, 9:00 A.M. to 1:00 P.M.).

RIGHT TO DISMISS STUDENTS

The right is reserved by the University to dismiss or exclude any student from the University, or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable to do so.

RIGHT TO CHANGE RULES

The University and its various colleges, schools, and divisions reserve the right to modify or change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

VETERANS EDUCATION

The Veterans Office of the George Washington University operates as a service bureau for veterans interested in studying at the University and acts in a liaison capacity between the University and the Veterans Administration. Here advice will be given concerning the educational program of the University and the procedure for securing the educational benefits of the "GI Bill".

Veterans who are undecided concerning vocational plans will be referred to the Counseling Center for expert vocational guidance by experienced counselors and psychometrists.

Special bulletins on veterans educational opportunities at The George Washington University may be obtained from the Admissions Office.

AUTHORIZATION FROM THE VETERANS ADMINISTRATION

Prior to registration the veteran should obtain from the Regional Office of the Veterans Administration, 1825 H Street NW., a Certificate of Entitlement or, if entitled to vocational rehabilitation, a letter approving training under Public Law 16 for presentation to the Veterans Office of the University at the time of registration. A photostatic copy of separation papers must accompany the application for certification.

ADMISSION

The entrance requirements for the Junior College, Columbian College, and the School of Government, in other than the pre-professional curricula, have been somewhat modified for veterans who are deficient in the regular requirements for admission, but who have been found by psychological and educational tests able to undertake college work. Veterans who have been enrolled in another educational institution since leaving the service, or who have been out of the service for more than one year prior to the beginning of the term for which they seek admission, must qualify under the regular admissions policies. (For admission requirements and procedure, see pages 11-19.)

Credit for work done in the service schools is granted by the Junior College, Columbian College, the School of Engineering, and the School of Government provided the veteran has not been out of the service for three years or more. To be considered for such credit, veterans should submit to the Director of Admissions photostatic copies of their records indicating courses successfully completed with sufficient identification of the course to enable the Admissions Office to locate it in the Guide to Evaluation of Educational Experience in the Armed Forces.

CONTINUOUS REGISTRATION

By carrying a continuous program throughout the fall, winter, and summer terms, the veteran may complete a four-year college course in three calendar years with no interruption in his subsistence payments.

STUDENT LIFE

RELIGIOUS LIFE

The University recognizes the contribution that religion can make to the education of its students by encouraging them to participate in denominational clubs of their own choice. National Catholic, Hebrew, and Protestant bodies sponsor these religious organizations, which act as links between the University and the local churches. The Director of the University Chapel and the advisers to the various denominational organizations are available throughout the year for consultation on personal problems.

UNIVERSITY CHAPEL

The University Chapel is maintained as a non-sectarian expression of the faith of the University in the contribution that religion can make to the education of its students. Twenty-minute services are held Friday of each week at 12:10 P.M. Representative clergymen of Washington are guest speakers at these non-denominational services.

HEALTH ADMINISTRATION

The University maintains a hospital and a staff of medical officers with offices at the University.

Students are entitled to certain health services described under the Department of Health Administration.

LIVING ACCOMMODATIONS

Women Students.—Women students under twenty-one years of age who are enrolled for twelve or more credit hours of academic work in the University must have their residences approved by the Director of Activities for Women before their registrations can be completed. In the women's residence halls, single rooms with breakfast and dinner are \$60 and \$65 a month; double rooms, with the same service, are \$53 and \$58 a month a person. Applications for rooms should be made well in advance. Forms for application, together with detailed information, may be obtained from the Director of Activities for Women.

Men Students.—Welling Hall provides double room facilities for 102 students. Dining facilities are available to all residents of this dormitory. Rooms rent for \$24 a month a person. Single and double rooms are provided for 203 students in Draper and Bradley Halls. These are temporary dormitories and residence is restricted to veterans of World War II who are enrolled for a minimum of twelve credit hours of

academic work in the University. Single rooms are \$17 a month; double rooms are \$13 a month a person. The University maintains a limited number of temporary apartment units for married veteran students and their families subject to the same requirements for tenancy as above.

Application forms for reservations may be obtained from Director of Activities for Men, Building R, 2027 H Street, NW.

Information concerning private rooming and boarding facilities near the University for women students twenty-one years of age or older and for men students may be obtained at the offices of the Director of Activities for Women and the Director of Activities for Men, respectively. The reservation of rooms in private houses must be made by students.

STUDENT EMPLOYMENT

The prospective student who expects to earn any part of his expenses and who does not have a definite appointment to a position should have the means of support for at least one term.

Many out-of-town students secure positions in the departments of the Government in Washington by taking the United States Civil Service examinations in their home states.

Students wishing full or part-time employment, and graduates wishing positions for which their college work has prepared them, should apply at the Employment Office, 2131 G Street NW.

VOCATIONAL COUNSELING

The Washington Counseling Center, established by the University, is at 720 Twentieth Street NW. The Center offers educational and vocational counseling service, advice on social and personal problems, a psychometric service in tests and measurements, and the use of files of occupational information and training opportunities.

STUDENT ACTIVITIES

Control and administration of all student activities are outlined in a separate bulletin.

ELIGIBILITY FOR STUDENT ACTIVITIES

Any student registered in The George Washington University who has a general average of not less than C (2.00) is eligible to participate in non-athletic student activities, subject to conditions specified by the local or national organizations, approved by the Student Life Committee.

The rules and policies of the Southern Conference govern participation in inter-collegiate athletics.

RECOGNITION OF STUDENT ORGANIZATIONS

No student club or society (except social fraternities, sororities, scholastic honor societies, religious or professional clubs or societies) organized as a branch or affiliate of a non-George Washington University organization will be recognized by the Committee on Student Life.

PROPERTY RESPONSIBILITY

The University is not responsible for the loss, in any University building, of personal property belonging to a student.

For further information, catalogues, and application blanks, address the Director of Admissions.

THE COLLEGES, SCHOOLS, AND DIVISIONS

THE JUNIOR COLLEGE

THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Myron Law Koenig, Ph.D., *Dean of the Junior College*
William Lewis Turner, A.M., *Assistant Dean of the Junior College*
Katharine Rogers Adams, Ph.D., *Assistant Dean in the Junior College*
George Martin Koehl, A.M., *Assistant Dean in the Junior College*
Carr Bartleson Lavell, A.M., *Assistant Dean in the Junior College*

Thomas Benjamin Brown, Ph.D., *Professor of Physics*
Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*
Norris Ingersoll Crandall, M.Arch., *Professor of Art*
Edward Henry Sehrt, Ph.D., *Professor of German*
Walter Lynn Cheney, Ph.D., *Professor of Physics*
Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*
†Donnell Brooks Young, Ph.D., *Professor of Zoology*
Warren Reed West, Ph.D., *Professor of Political Science*
Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women*
Francis Edgar Johnston, Ph.D., *Professor of Mathematics*
Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*
Merle Irving Protzman, Ph.D., *Professor of Romance Languages*
Ralph Dale Kennedy, Ph.D., *Professor of Accounting and Business Administration*
§Wood Gray, Ph.D., *Professor of American History*
‡Florence Marie Mears, Ph.D., *Professor of Mathematics*
Thelma Hunt, Ph.D., M.D., *Professor of Psychology*
‡Arthur Edward Burns, Ph.D., *Professor of Economics*
Ira Bowers Hansen, Ph.D., *Professor of Zoology*
Paul William Bowman, Ph.D., *Professor of Biology*
Lawson Edwin Yocum, Ph.D., *Professor of Botany*
John Withrow Brewer, Ph.D., *Professor of International Law*
Frances Kirkpatrick, A.M., *Professor of Home Economics*
Louis Clark Keating, Ph.D., *Professor of Romance Languages*
William Henry Myers, A.M., *Professor of Physical Education for Men*

§ The President of the University, the Dean and Assistant Deans in the College, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

‡ On sabbatical leave winter term 1949-50.

‡ On sabbatical leave fall term 1949-50.

- Harold Loran Geisert, Ph.D., *Professor of Sociology*
 Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*
 Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*
 Ernest Sewall Shepard, A.M., *Professor of English Literature*
 Charles Watson Bliven, M.S., *Professor of Pharmacy*
 Alan Thomas Deibert, A.M., *Professor of Romance Languages*
 Donald Stevenson Watson, Ph.D., *Professor of Economics*
 Myron Law Koenig, Ph.D., *Professor of American History*
 Calvin Darlington Linton, Ph.D., *Professor of English Literature*
 Charles Edward Gauss, Mus.B., Ph.D., *Elton Professor of Philosophy*
 Donald Chenoweth Kline, B.Arch., *Associate Professor of Art*
 John Francis Latimer, Ph.D., *Associate Professor of Classical Languages and Literatures*
 Helen Bennett Lawrence, A.M., *Associate Professor of Physical Education for Women*
 Irene Cornwell, Ph.D., *Associate Professor of French*
 Kathryn Mildred Towne, A.M., *Associate Professor of Home Economics*
 Antonio Alonso, A.M., *Associate Professor of Spanish*
 Charles William Cole, Ph.D., *Associate Professor of American Literature*
 Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*
 Wolfram Karl Legner, Ph.D., *Associate Professor of German*
 Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*
 Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*
 Lubin Poe Leggette, A.M., *Associate Professor of Speech*
 George Martin Koehl, A.M., *Associate Professor of Physics*
 Robert Dale Campbell, A.M., *Associate Professor of Geography*
 Robert Randal Meijer, Ph.D., *Associate Professor of Physics*
 Lawrence Daniel Folkemer, Ph.D., *Associate Professor of Religion*
 Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*
 William Lewis Turner, A.M., *Associate Professor of English*
 Elbridge Colby, Ph.D., *Associate Professor of Journalism*
 Averett Howard, A.M., *Associate Professor of Composition*
 Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*
 George Francis Henigan, Jr., Ph.M., *Associate Professor of Speech*
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*
 Dorothy Helene Veon, A.M., Ed.D., *Assistant Professor of Secretarial Studies*
 Edith Elizabeth Mortensen, Ph.D., *Assistant Professor of Zoology*
 Virginia Loretta Dennis, A.M., *Assistant Professor of Physical Education for Women*

Reuben Esselstyn Wood, Ph.D., *Assistant Professor of Chemistry*
 Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*

Muriel Hope McClanahan, Ph.D., *Assistant Professor of English*
 Nels David Nelson, Ph.D., *Assistant Professor of Mathematics*
 Calvin Weir Pettit, Ph.M., *Assistant Professor of Speech*
 Carey DeWitt Eldridge, Ph.D., *Assistant Professor of Romance Languages*

Sam Clark Munson, M.S., *Assistant Professor of Biology*
 Paul Edward Hanchett, Ph.D., *Assistant Professor of Economics*
 Edwin Lockwood Stevens, A.M., *Assistant Professor of Speech*
 James Harold Coberly, A.M., *Assistant Professor of American Literature*

Willard Caldwell, Ph.D., *Assistant Professor of Psychology*
 Martin Steele Day, Ph.D., *Assistant Professor of English*
 Carr Bartleson Lavell, A.M., *Assistant Professor of Sociology*
 Phyllis Annette Nichols, A.M., *Assistant Professor of English*
 Vera Lillian Mowry, A.M., *Assistant Professor of English*
 *John Palmer Reesing, Jr., A.M., *Assistant Professor of English*
 John Walter Beardslee III, A.B., B.D., *Assistant Professor of Religion*
 James Coogan, A.M., *Assistant Professor of Economics*
 William Franklin Jewell III, M.S., *Assistant Professor of Geography*
 Daniel Remsen Norton, Ph.D., *Assistant Professor of Chemistry*
 William Frederick Sager, Ph.D., *Assistant Professor of Chemistry*
 Ronald Bettes Thompson, A.B., *Assistant Professor of European History*
 John Todd Wilson, Ph.D., *Assistant Professor of Psychology*
 Rafael Supervia, Doctor en Derecho, *Assistant Professor of Spanish*
 James Willard Harkness, B.S., Ed.M., *Assistant Professor of Chemistry*
 John Gage Allee, Jr., A.M., *Assistant Professor of English*
 Kennett William Yeager, Ph.D., *Assistant Professor of Sociology*
 Richard Catlin Haskett, A.M., *Assistant Professor of American History*
 Earl Larkin Williams, A.M., *Lecturer in Mathematics*
 Jacqueline Chevallaz Buhrman, A.M., *Instructor in French*
 Ruth Elsie Jones, A.B., *Instructor in Composition*
 Felicia Miller, A.M., *Instructor in Spanish*
 Ruth Shryhock Nelson, A.M., *Instructor in Composition*
 Theodore Peter Perros, B.S., *Instructor in Chemistry*
 Robert Malcolm Stewart, B.S., *Instructor in Physics*
 Arthur Castner Christman, Jr., B.S., *Instructor in Physics*
 Jean McQuiston Coover, A.M., *Instructor in Physics*
 Charles Lawrence Marks, A.M., *Instructor in Statistics*
 Emma Sue Phelps, A.M., *Instructor in Speech*
 Jonathan Dayton Stoddart, A.M., *Instructor in Political Science*

* On leave of absence 1949-50.

William Adriaance Withington, A.M., *Instructor in Geography*
 Edith Shores Surrey, A.M., *Instructor in Speech*
 Lee Sheward Bielski, A.M., *Instructor in Speech*
 John Etinger Tompkins, A.B., *Associate in Physics*
 Thomas Arthur Wiggins, B.S., *Associate in Physics*

COMMITTEES •

THE DEAN'S COUNCIL ‡

1950

Thelma Hunt
 Edith Elizabeth Mortensen

1951

Charles Edward Gauss
 George Martin Koehl

1952

Wolfram Karl Legner
 Robert Corbin Vincent

COMMITTEE ON ADMISSION AND ADVANCED STANDING

William Lewis Turner, *Chairman*
 Carr Bartleson Lavell, *Vice-Chairman*

Alan Thomas Deibert
 Averett Howard

Roderic Hollett Davison
 William Franklin Jewell

COMMITTEE ON SCHOLARSHIP

Katharine Rogers Adams, *Chairman*
 George Martin Koehl, *Vice-Chairman*

Donald Chenoweth Kline
 Kathryn Mildred Towne

Wolfram Karl Legner
 Muriel Hope McClanahan

JUNIOR COLLEGE ADVISORY COMMITTEE

Dean of the Junior College, *Chairman*
 Assistant Dean of the Junior College, *Vice-Chairman*

Samuel Nathaniel Wrenn
 Carr Bartleson Lavell

George Martin Koehl
 Katharine Rogers Adams

• The President of the University and the Dean of the Junior College are members *ex officio* of all committees.

‡ Elected by the Faculty.

GENERAL INFORMATION

INTRODUCTORY

The Junior College, which comprises the first two years of the standard four-year college program in the liberal arts and sciences, was established in 1930 as a part of the academic reorganization of the University. Prior to 1930, the four-year program had been administered by *Columbian College since its organization in 1821.*

The Junior College curricula continue the studies of a general cultural nature begun in the secondary schools, and lay a foundation for the more specialized work which is to follow. Emphasis is accordingly laid (1) upon the social, cultural, biological, and physical background of civilization (history, political science, physical and biological sciences, literature, etc.) and (2) upon the discipline necessary to the effective prosecution of more advanced work (English rhetoric and composition, foreign languages, mathematics, etc.).

The Junior College also provides the pre-professional work required for admission to the schools of Pharmacy, Education, and Government, and the first two years of the pre-professional work required by the schools of Medicine and Law.

In addition it provides two-year curricula in vocational training, leading to the degree of Associate in Arts.

ADVISORY SYSTEM

In order that students may have opportunities for assistance in planning their courses and also for obtaining personal, educational, and vocational advice in every phase of their academic work during the first two years, a number of members of the Faculty serve as advisers to Junior College students.

Members of the Faculty, selected for their knowledge of Junior College requirements and student programs, advise students in making up their programs of study for each term. A separate staff of experienced advisers under the chairmanship of the Dean assists those students who find it difficult to make adjustments to college life because of scholastic or other reasons. Students who are "warned" or who are on probation may be required to consult these advisers at regular intervals. Students are encouraged to consult any member of the Advisory Staff or their instructors about college problems at any time.

Copies of notices of "warning" or probation will be sent to the parents or guardians of students on request, and the Dean and members of the Advisory Staff are available for consultation with parents or guardians concerning student problems.

REGULATIONS

Students in the Junior College are subject to, and are expected to familiarize themselves with, the regulations regarding ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

SCHOLASTIC-APTITUDE TESTS

Students admitted to the Junior College may be required to take the scholastic-aptitude tests of the University.

REQUIRED PLACEMENT EXAMINATIONS

English.—Special placement examinations, required of all entering freshmen, will be conducted by the English Department. Students registered in English 1 are tested in the minimum essentials of standard usage, vocabulary, writing skill, and reading speed and comprehension. Those students who show marked superiority may be exempted from one or both terms of the course; those who are inadequately prepared for the course will be assigned to English A.

Romance Languages.—A standardized placement examination will be required of all entering students who wish to continue in college the language begun in high school. Upon completion of the examination assignment will be made to the appropriate course with credit to be assigned on the usual basis. This does not apply to students whose previous experience in a given language is equivalent to two college years.

The Use of Correct English.—The use of correct English, oral or written, is required not only in English but also in all other courses (see pages 74-75).

FIRST- AND SECOND-GROUP COURSES

A Junior College student may not take second-group courses (courses numbered 101-200) without the written permission of the instructor and of the Dean of the Junior College. A student will not be permitted to postpone a first-group course, required under the curriculum for which he is registered, in order to take a second-group course for elective credit. The principle that first-group courses must be taken in the Junior College years, and advanced courses in Columbian College and the professional schools, will be rigidly adhered to in approving student programs. No student on probation is permitted to take second-group courses except by the express permission of the Committee on Scholarship.

AMOUNT OF WORK

Fifteen or sixteen credit hours, not including required physical education, constitute normal work. A student not on probation may be permitted by the Dean to take seventeen credit hours.

A student having a quality-point index of 3.50 may, with the permission of the Dean, take eighteen or nineteen credit hours. No student may take more than nineteen credit hours, except with the permission of the Committee on Scholarship.

For an employed student working more than twenty-four hours a week, nine credit hours, not including required physical education, constitute normal work. An employed student not on probation may be permitted by the Dean to take ten credit hours. An employed student having a quality-point index of 3.50 may be permitted by the Dean to take twelve or thirteen credit hours.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean, to bring his program within the limitations set by the Faculty for the amount of work to be carried by an employed student.

ATTENDANCE

The student is held responsible to the instructor in charge of the course for which he is registered for all the work of the course, and all absences must be excused before provision will be made for him to make up the work missed.

With the exceptions noted below, occasional absences, not to exceed in number for each term the credit hours for the term, will be automatically excused. (If a course has distinct divisions such as lectures, laboratories, recitations, etc., these excuses apply pro rata to such separate divisions.) In the application of this rule absences immediately preceding or following holiday periods are to be counted double.

Such automatic excuses are intended to cover the occasional minor exigencies and not to constitute an indiscriminate privilege. A student on probation is allowed no automatic excuses.

Excuses for absences from two or more consecutive class periods, and for absences from examinations which have been announced in advance, can be obtained only by making written application to the instructor in charge of the course.

A student whose absences from any class, whether excused or unexcused, are in excess of one-fourth of the total number of class periods will receive the grade of *F* for the course, except by special ruling of the Dean on recommendation of the instructor in the course.

CLASSIFICATION OF STUDENTS

A student who has satisfactorily completed at least thirty-two credit hours of work, including eighteen credit hours in his curriculum requirements, is classed as a *sophomore*.

THE DEGREE OF ASSOCIATE IN ARTS

Upon the satisfactory completion of the requirements of the Junior College, the degree of Associate in Arts is conferred.

REQUIREMENTS FOR THE DEGREE

SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 35 and 36.

In order to receive the degree of Associate in Arts a student must have a quality-point index of at least 2.00.

Honor Roll.—The name of every student who has a quality-point index of 3.50 or higher will be placed on the honor roll and published. No consideration is given to those who have completed a total of less than fifteen credit hours. A place on the honor roll does not necessarily mean that the student will receive honors upon graduation.

Probation.—A student must maintain a quality-point index of at least 2.00 or be placed on probation.

A student remains on probation as long as his quality-point index is below 2.00; however, the student who has a quality-point index between 1.50 and 2.00 will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

Suspension.—A student who has a quality-point index below 1.50 will be suspended; however, a student who has a quality-point index between 1.40 and 1.50 will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

A student who is subject to probation for the third time, whether successive or after an interval, will be suspended.

For the purpose of these rules, the work taken in the summer sessions is considered one term.

A student suspended for poor scholarship may apply for readmission after an interval of two terms. On application for readmission the student must submit specific evidence to the Committee on Scholarship that he is better qualified to pursue college work. A student suspended twice for poor scholarship will not be readmitted.

The foregoing scholarship rules are applied when a student has undertaken a minimum of 12 hours. Thereafter, the rules are applied in multiples of nine hours.

Warnings.—At stated intervals during the academic year instructors file in the Office of the Junior College the names of those students who are doing work of D grade or lower. A "warning" will then be sent to the student and a copy of the warning filed with the appropriate adviser. A "warning" constitutes notice to the student that he must con-

sult his instructor and adviser at the earliest opportunity. "Warning periods" are established between the 7th and 8th weeks of the fall and winter terms. In the Summer Sessions the student should consult his instructors on the basis of his record in the courses concerned.

CURRICULUM REQUIREMENTS

The satisfactory completion of sixty credit hours of college work, exclusive of physical education, is required as outlined in one of the Junior College curricula described below.

Except for students registered for the combined degrees of Bachelor of Arts and Doctor of Medicine, not more than twelve credit hours of professional courses may be included in the one hundred and twenty credit hours required for the Bachelor's degrees in Columbian College. Junior College students electing professional courses under this rule must obtain the approval of the Dean of the Junior College.

Physical Education Requirements.—Physical education is required of all students in the freshman and sophomore years. (See "Physical Education Requirements", page 38.)

Foreign-Language Requirements.—For the degree of Associate in Arts a student must have completed satisfactorily the equivalent of two years of college work in a single foreign language. (See "Placement Examinations", page 54.)

A student offering for admission four acceptable high school units of a single foreign language, or the equivalent, is not required to take any foreign language. If he offers three units, he must complete the second term of the second-year college course in the same language. If he offers two units, he must complete the entire second-year college course in the same language (except in the Pre-Pharmacy Curriculum, where he may substitute another language or elective). If he offers one unit, he must complete the second term of the first-year college course and the entire second-year course in the same language.

In some instances foreign languages are required or recommended as a preparation for advanced work in Columbian College and the professional schools. The student should consult his adviser as to these requirements, so that appropriate foreign languages may be included, when necessary, in his Junior College program.

Curricula for Admission to Columbian College and the Professional Schools

Each of the following curricula comprises the first two years of a standard four-year college course and prepares the student for upper division work. Requirements for graduation from the Junior College may not be the same as the requirements for admission to Columbian

College or a professional school. Therefore, the student should consult the specific admission requirements of the college or school for which he is preparing.

The first sixty credit hours of the ninety required for admission to the School of Medicine are undertaken in the Junior College. Each premedical program must be approved by the premedical adviser. For specific requirements, see "Admissions", page 15.

COLUMBIAN COLLEGE:

1. ARTS AND LETTERS *

The following two-year curriculum prepares for the Bachelor of Arts program in Columbian College:

	Credit Hours
English	English 1-2 6
	English 51-52, 71-72, 91-92, Art 11-12, 71-72, Classical Languages 71-72, or Philosophy 51-52 6
Foreign Language ...	See page 57 for foreign language requirement. . . 12
Social Studies	Economics 1-2, History 39-40 or 71-72, Political Science 9-10, or Sociology 1-2..... 6
Science	Biology 1-2, Botany 1-2, Chemistry 11-12, Physics 5, 7 (6, 7) (5, 6), or Zoology 1-2...6 or 8
Physical Education ..	See page 38 for statement of requirement.
Elective†	22 to 24
Total.....	60 or 62

2. SCIENCE *

The following two-year curriculum prepares for the Bachelor of Science curriculum in Columbian College:

	Credit Hours
English	English 1-2 6
	English 51-52, 71-72, 91-92, Art 11-12, 71-72, Classical Languages 71-72, or Philosophy 51-52 (Elective if 6 hours of Social Studies are taken—see below) 6

* Students who have had high school courses in chemistry, mathematics, and physics should consult the description of the beginning courses in these fields. For the degree of Bachelor of Science, the student should obtain the advice of the major departments as to proper prerequisite and collateral courses for the intended major.

† Credit is not given for courses elected in Physical Education or Secretarial Studies.

	Credit Hours
Foreign Language ... French or German or non-science elective.....	12
NOTE.—A reading knowledge of French or German is required. This may be satisfied by French 4 or German 4 or by special examination.	
Mathematics Mathematics 3, 6, or electives.....	6
NOTE.—The Mathematics 3 requirement may be satisfied by offering two years of high school algebra acceptable for admission; the Mathematics 6 requirement may be satisfied by offering one-half year of high school trigonometry acceptable for admission.	
Social Studies Economics 1-2, History 39-40, 71-72, Political Science 9-10, or Sociology 1-2 (Elective if 6 hours in the English, Art, Classical Languages, Philosophy group are taken—see above)	6
Science (a) Biology 1-2, Botany 1-2, Zoology 1-2 (b) Chemistry 11-12, Physics 5, 7 (6, 7) (5, 6)	18 to 22
(In satisfying this requirement, at least one year-course must be taken in both groups (a) and (b).)	
Physical Education .. See page 38 for statement of requirement.	
Elective*.....	2 to 12
Total.....	60 to 64

SCHOOL OF PHARMACY:

The following two-year curriculum prepares for the Bachelor of Science in Pharmacy curriculum in the School of Pharmacy:

	Credit Hours
English English 1-2	6
Foreign Language ... See page 57 for foreign language requirement..	6
Science Botany 1†, Chemistry 11-12, Physics 5, Zoology 1 (Freshman year).....	18
Chemistry 21, 22, Physics 6 (Sophomore year) ..	11
Social Studies Economics 1	3
Professional courses .. Pharmacy 1 (Freshman year).....	1
Pharmacy 21, 22, 23, 24, 25 (Sophomore year) ..	17
Physical Education	8
Total.....	70

* Credit is not given for courses elected in Physical Education or Secretarial Studies.

† Botany 2 may be substituted.

SCHOOL OF EDUCATION:

1. EDUCATION

The following two-year curriculum prepares for the Bachelor of Arts in Education curriculum in the School of Education:

Arts in Education curriculum in the School of Education.		Credit Hours
English	English 1-2	6
	English 51-52, 71-72, or 91-92.....	6
Foreign Language ...	(French, German, Latin, or Spanish).....	12
Social Studies	History 71-72	6
	Economics 1-2; Geography 121-22; History 39-40; Political Science 9-10; or Sociology 1-2. (Those offering for admission two or more acceptable senior high school units in the Social Studies may be exempted from this requirement)	6
Science and Mathematics	Two terms to supplement senior high school courses, selected from: Biology 1-2; Botany 1-2; Chemistry 11-12; Physics 5 and 6 or 7; Zoology 1-2; or Mathematics 3 and 6 or 6 and 12	6 or 8
Other Courses	Psychology 1 and 22.....	6
	Speech 11 or 21.....	3
	Statistics 53	3
Physical Education ..	See page 38 for statement of requirement.	
Electives		4 to 6
Total.....		60

2. HOME ECONOMICS

The following two-year curriculum prepares for the Bachelor of Science in Home Economics curriculum in the School of Education:

	Credit Hours
English	English 1-2
	English 51-52, 71-72; Speech 21, 22 (11, 21)...
Foreign Language ...	French, German, Latin, or Spanish.....
Social Studies*	Economics, History, Political Science, or So- ciology
Science	Chemistry 11-12 (Sophomore year).....
Psychology	Psychology I
Physical Education ..	See page 38 for statement of requirement.
Curriculum Electives.	Home Economics 1, 22 (Freshman year).....
	Home Economics 51, 62 (Sophomore year)....
Academic Electives..	(Freshman year)
	(Sophomore year)
Total.....	60

* Courses selected with the recommendation of the adviser in the Department of Home Economics.

3. PHYSICAL EDUCATION FOR MEN

The following two-year curriculum prepares for the Bachelor of Science in Physical Education curriculum in the School of Education:

	Credit Hours
English English 1-2	6
Social Studies History 39-40, 71-72, Political Science 9-10, or Sociology 1-2 (Freshman year).....	6
Economics, History, or Political Science (Soph- omore year)	6
Science Biology 1-2 or Zoology 1-2 (Freshman year) ..	6 or 8
Physical Education .. See page 38 for statement of requirement.	
Curriculum Electives. Physical Education 42, 43-44, 47; Psychology 1, 22 (Freshman year).....	14
Physical Education 45-46, 49, 58; Speech 21 (Sophomore year)	12
Elective To satisfy minimum required credits (Sopho- more year).	
Total:	
Freshman year	32 or 34
Sophomore year	28

4. PHYSICAL EDUCATION FOR WOMEN

The following two-year curriculum prepares for the Bachelor of Science in Physical Education curriculum in the School of Education:

	Credit Hours
English English 1-2	6
English 51-52, 71-72, or 91-92.....	6
Social Studies History 39-40, 71-72; Political Science 9-10; or Sociology 1-2	6
Science Biology 1-2 or Zoology 1-2.....	6 or 8
Physical Education .. See page 38 for statement of requirement.	
Curriculum Electives. Physical Education 13-14 (Freshman year)....	4
Physical Education 15-16, 18, 49; Psychology 1, 22 (Sophomore year).....	16
Academic Electives. (Each year)	6 or 8
Total.....	60 or 62

SCHOOL OF GOVERNMENT:**1. ACCOUNTING AND BUSINESS ADMINISTRATION**

The following two-year curriculum prepares for the Bachelor of Arts in Government curricula in Accounting and in Business Administration in the School of Government:

	Credit Hours
Accounting Business Administration 51-52.....	6
English English 1-2	6
Foreign Language ... See page 57 for foreign language requirement..	12
Social Studies Economics 1-2; History 39-40 or 71-72; Political Science 9-10.....	18
Statistics Statistics 51, 52.....	6
Physical Education .. See page 38 for statement of requirement.	
Elective (Students interested in Foreign Commerce include Geography 51.).....	12
Total	60

2. FOREIGN AFFAIRS

The following two-year curriculum prepares for the Bachelor of Arts in Government curriculum in Foreign Affairs in the School of Government:

	Credit Hours
English English 1-2	6
Foreign Language ... See page 57 for foreign language requirement..	12
Social Studies Economics 1-2, History 39-40, 71-72; Political Science 9-10	24
Mathematics, Science, Biology, Botany, Chemistry, Mathematics, Physics, Statistics, or Zoology.....	6 or 8
Physical Education .. See page 38 for statement of requirement.	
Elective (To satisfy minimum required credits)	
Total.....	60 or 62

3. STATISTICS

The following two-year curriculum prepares for the Bachelor of Arts in Government curriculum in Statistics in the School of Government:

	Credit Hours
English English 1-2	6
Foreign Language ... See page 57 for foreign language requirement..	12
Social Studies Economics 1-2, Philosophy 51-52.....	12
Mathematics Mathematics 20 and prerequisites.....	3 to 12
Physical Education .. See page 38 for statement of requirement.	
Elective	18 to 27
Total.....	60

VOCATIONAL CURRICULA

In addition to the above curricula, all of which prepare for admission to upper division colleges and schools, the Junior College offers the following two-year terminal courses.

1. SECRETARIAL STUDIES

	Credit Hours
English	English 1-2
	English 51-52, 71-72, or 91-92.....
	Secretarial Studies 51.....
Social Studies	Economics 1-2
General	Speech 11
	Business Administration 51.....
Secretarial Skills* ...	Secretarial Studies 1, 2, 11, 12, 15, 16, and 54..
Physical Education ..	See page 38 for statement of requirement.
Elective	(To be selected with approval of adviser).....
Total.....	60

2. ACCOUNTING

The required work may be completed in two years on a full-time basis or in three years on a part-time basis, with the approval of the adviser.

REQUIRED COURSES	Credit Hours
Business Administration 51-52...	6
Business Administration 101, 102	6
Business Administration 115.....	3
Business Administration 145.....	3
Business Administration 151-52..	6
Business Administration 153.....	3
Business Administration 155.....	3
Business Administration 165.....	3
Economics 1-2.....	6
Economics 121.....	3
English 1-2.....	6
Political Science 127.....	3
Political Science 128.....	3
Physical Education	
See page 38 for statement of requirement.	
Electives	6
(To be selected with the approval of the adviser.)	
Total.....	60

* Qualified students, upon the approval of the adviser or the satisfactory completion of a placement test, may waive Secretarial Studies 1, 11, and 12. Other courses, approved by the adviser, will be substituted.

Examinations for Waiving Curriculum Requirements *

A Student desiring to omit a required course may take such examination as the department prescribes, and, on passing satisfactorily, he may be relieved of the curriculum requirements in that subject and may qualify for registration in an advanced course. Passing this examination does not entitle the student to any hours of credit toward the degree. A student desiring to take such examinations should make written request of the Dean and pay the required fee at the Office of the Comptroller before the date of the examination specified in the University calendar.

Honors

The degree of Associate in Arts may be conferred "with distinction" upon the student who has a quality-point index of 3.50 or higher, provided that student has been in residence at the University for 30 hours, 15 of which must have been taken in the Junior College at the time the index is calculated.

* This provision does not apply to the premedical student, all of whose required premedical work must be taken in a recognized college of arts and sciences.

COLUMBIAN COLLEGE

THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
 Henry Grattan Doyle, A.M., LL.D., Litt.D., *Dean of Columbian College*
 Calvin Darlington Linton, Ph.D., *Assistant Dean of Columbian College*

Thomas Benjamin Brown, Ph.D., *Professor of Physics*
 Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry*
 Norris Ingersoll Crandall, M.Arch., *Professor of Art*
 Colin Mackenzie Mackall, Ph.D., *Professor of Chemistry*
 Edward Henry Sehart, Ph.D., *Professor of German*
 Robert Whitney Bolwell, Ph.D., *Professor of American Literature*
 Walter Lynn Cheney, Ph.D., *Professor of Physics*
 James Henry Taylor, Ph.D., *Professor of Mathematics*
 Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*
 Errett Cyril Albritton, A.B., M.D., *Professor of Physiology*
 ‡Donnell Brooks Young, Ph.D., *Professor of Zoology*
 Warren Reed West, Ph.D., *Professor of Political Science*
 Frank Mark Weida, Ph.D., *Professor of Statistics*
 Francis Edgar Johnston, Ph.D., *Professor of Mathematics*
 Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*
 Mitchell Dreese, Ph.D., *Professor of Educational Psychology*
 Leland Wilbur Parr, Ph.D., *Professor of Bacteriology*
 Merle Irving Protzman, Ph.D., *Professor of Romance Languages*
 Alva Curtis Wilgus, Ph.D., *Professor of Latin American History*
 §Wood Gray, Ph.D., *Professor of American History*
 ‡Florence Marie Mears, Ph.D., *Professor of Mathematics*
 Thelma Hunt, Ph.D., M.D., *Professor of Psychology*
 ‡Arthur Edward Burns, Ph.D., *Professor of Economics*
 Ira Bowers Hansen, Ph.D., *Professor of Zoology*
 John Albert Tillema, Ph.D., LL.M., S.J.D., *Professor of Political Science*
 Paul William Bowman, Ph.D., *Professor of Biology*
 Lawson Edwin Yocum, Ph.D., *Professor of Botany*

• The President of the University, the Dean and the Assistant Dean of the College, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, and Assistant Professors constitute the Faculty.

‡ On sabbatical leave winter term 1949-50.

§ On sabbatical leave fall term 1949-50.

John Withrow Brewer, Ph.D., *Professor of International Law*
 Louis Clark Keating, Ph.D., *Professor of Romance Languages*
 Harold Loran Geisert, Ph.D., *Professor of Sociology*
 Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*
 Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*
 Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic*

History

Ernest Sewall Shepard, A.M., *Professor of English Literature*
 George Winchester Stone, Jr., Ph.D., *Professor of English Literature*
 Fred Salisbury Tupper, Ph.D., *Professor of English Literature*
 Warren Andrew, Ph.D., M.D., *Professor of Anatomy*
 Alan Thomas Deibert, A.M., *Professor of Romance Languages*
 Chester Elwood Leese, Ph.D., *Professor of Physiology*
 Donald Stevenson Watson, Ph.D., *Professor of Economics*
 Myron Law Koenig, Ph.D., *Professor of American History*
 Calvin Darlington Linton, Ph.D., *Professor of English Literature*
 Charles Edward Gauss, Mus.B., Ph.D., *Elton Professor of Philosophy*
 James Christopher Corliss, A.M., *Adjunct Professor of Inter-American*

Economics

Edward Champion Acheson, Ph.D., *Associate Professor of Finance*
 Donald Chenoweth Kline, B.Arch., *Associate Professor of Art*
 John Francis Latimer, Ph.D., *Associate Professor of Classical Lan-*
guages and Literatures

Antonio Alonso, A.M., *Associate Professor of Spanish*
 Irene Cornwell, Ph.D., *Associate Professor of French*
 Charles William Cole, Ph.D., *Associate Professor of American Literature*
 Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*
 Wolfram Karl Legner, Ph.D., *Associate Professor of German*
 Lubin Poe Leggette, A.M., *Associate Professor of Speech*
 George Martin Koehl, A.M., *Associate Professor of Physics*
 Robert Dale Campbell, A.M., *Associate Professor of Geography*
 Robert Randal Meijer, Ph.D., *Associate Professor of Physics*
 Lawrence Daniel Folkemer, Ph.D., *Associate Professor of Religion*
 Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*
 Elbridge Colby, Ph.D., *Associate Professor of Journalism*
 Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*
 George Francis Henigan, Jr., Ph.M., *Associate Professor of Speech*
 Wolfgang Herbert Kraus, Dr.Jur., S.J.D., *Associate Professor of Polit-*
ical Science

Edith Elizabeth Mortensen, Ph.D., *Assistant Professor of Zoology*
 Reuben Esselstyn Wood, Ph.D., *Assistant Professor of Chemistry*
 Nels David Nelson, Ph.D., *Assistant Professor of Mathematics*
 Calvin Weir Pettit, Ph.M., *Assistant Professor of Speech*

Sam Clark Munson, M.S., *Assistant Professor of Biology*
 Edwin Lockwood Stevens, A.M., *Assistant Professor of Speech*
 James Harold Coberly, A.M., *Assistant Professor of American Literature*
 Willard Caldwell, Ph.D., *Assistant Professor of Psychology*
 Ronald Bettes Thompson, A.B., *Assistant Professor of European History*
 William Frederick Sager, Ph.D., *Assistant Professor of Chemistry*
 John Walter Beardslee III, A.B., B.D., *Assistant Professor of Religion*
 William Franklin Jewell III, M.S., *Assistant Professor of Geography*
 John Todd Wilson, Ph.D., *Assistant Professor of Psychology*
 John Gage Allee, Jr., A.M., *Assistant Professor of English*
 Alberto Vázquez, Ph.D., *Lecturer on Spanish American Literature*

COMMITTEES •

THE DEAN'S COUNCIL ‡

1950

Howard Maxwell Merriman
 Charles Rudolph Naeser

1951

Gretchen Louisa Rogers
 Reuben Esselstyn Wood

1952

Merle Irving Protzman
 James Harold Coberly

COMMITTEE ON ADMISSION AND ADVANCED STANDING

Calvin Darlington Linton, *Chairman*
 Edith Elizabeth Mortensen, *Secretary*

Alan Thomas Deibert

Charles William Cole

Robert Randal Meijer

COMMITTEE ON THE USE OF CORRECT ENGLISH

Averett Howard, *Chairman*

Edith Elizabeth Mortensen
 Muriel Hope McClanahan

George Francis Henigan, Jr.
 Martin Steele Day

COMMITTEE ON SCHOLARSHIP

Fred Salisbury Tupper, *Chairman*

Florence Marie Mears
 Howard Maxwell Merriman

Samuel Nathaniel Wrenn
 Antonio Alonso

* The President of the University and the Dean of Columbian College are members ex officio of all committees.

‡ Elected by the Faculty.

COMMITTEE ON STUDIES

The Dean of the College, *Chairman*Antonio Alonso
(*Languages and Literatures*)Thelma Hunt
(*Natural Sciences*)Frank Mark Weida
(*Mathematics and Physical
Sciences*)Wood Gray
(*Social Sciences*)

DIVISIONAL ORGANIZATIONS

LANGUAGES AND LITERATURES

Elbridge Colby, *Chairman*
Martin Steele Day, *Secretary*

Educational Committee

Antonio Alonso, *Chairman*
Fred Salisbury Tupper
John Francis Latimer

MATHEMATICS AND THE PHYSICAL SCIENCES

George Martin Koehl, *Chairman*
William Frederick Sager, *Secretary*

Educational Committee

Samuel Nathaniel Wrenn, *Chairman*
Thomas Benjamin Brown
Florence Marie Mears

NATURAL SCIENCES

Lawson Edwin Yocum, *Chairman*
Edith Elizabeth Mortensen, *Secretary*

Educational Committee

Paul William Bowman, *Chairman*
Angus MacIvor Griffin
Abraham Dury

SOCIAL SCIENCES

Ronald Bettes Thompson, *Chairman*
Lawrence Daniel Folkemer, *Secretary*

Educational Committee

Harold Loran Geisert, *Chairman*
Donald Stevenson Watson Roderic Hollett Davison

GENERAL INFORMATION

INTRODUCTORY

Columbian College was founded in 1821. James Monroe, then President of the United States, aided in obtaining the charter from Congress which established "The Columbian College in the District of Columbia" for the "sole and exclusive purpose of educating youth in the English, learned and foreign languages, the liberal arts, sciences and literature", with full power to confer all degrees "usually granted and conferred in colleges".

In 1930, when the Junior College was established, the name "Columbian College" was bestowed upon the senior college of liberal arts.

THE COLUMBIAN COLLEGE PROGRAM

In The George Washington University, the program for liberal arts and sciences extends from the general collegiate education of the Junior College (the freshman and sophomore years), through the instruction for the Bachelor's degrees of Columbian College (the junior and senior years), and the studies for the Master's degrees which are also in Columbian College, to the graduate discipline leading to the degree of Doctor of Philosophy, which is administered by the Graduate Council.

The purpose of Columbian College is to round out the program of liberal education begun in the Junior College and to bring to a focus educationally the individual talents and aptitudes of the student of liberal arts.

The program involves a comprehensive survey of a field of study, together with such knowledge of other fields as will contribute to the general educational development of the student. A field of study may be confined to one department or may involve a group of related courses in more than one department, or more than one division.

DIVISIONAL ORGANIZATIONS

The following divisions have been established in The George Washington University based on the relationship of course content, interrelation of methods and prerequisites, and similarity of background and viewpoint:

1. *The Division of Languages and Literatures.*—The departments of Classical Languages and Literatures, English, Germanic Languages and Literatures, and Romance Languages and Literatures.
2. *The Division of Mathematics and the Physical Sciences.*—The departments of Biochemistry, Chemistry, Mathematics, Pharmacology, Physics, and Statistics.
3. *The Division of the Natural Sciences.*—The departments of Anatomy, Bacteriology, Biology, Botany, Geography, Geology, Neurology, Pathology, Physiology, Psychology, and Zoology.
4. *The Division of the Social Sciences.*—The departments of Business Administration, Economics, Education, History, Law, Philosophy, Political Science, Religion, Sociology, and Speech.

The departments under these University divisions function for Columbian College only in such fields of study as are appropriate for a senior college of arts, letters, and sciences.

REGULATIONS

Students in Columbian College are subject to, and are expected to familiarize themselves with, the regulations regarding ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

PREREQUISITES

It is assumed that a student entering Columbian College has met the requirements of the Junior College under the *Arts and Letters* curriculum or the *Science* curriculum. Following is a summary of these prerequisites:

The *Arts and Letters* curriculum: (1) Freshman English (6 credit hours) and an additional sophomore-year course (6 credit hours) in English, American, or European literature. A first-group course in Art, Classical Languages, or Philosophy may be substituted for the sophomore course in English. (2) Two college years (at least 12 credit hours) of a single foreign language or the equivalent (see foreign-language requirement, page 57), are required. A transfer student who has had foreign-language courses in another institution meeting 4 or 5 times a week may have acquired as much as 12 credit hours in a foreign language without having taken four terms (two full years). Such a student is required to take additional work here in the same language until he has completed four terms (or an equivalent combination of high school years and college terms). (3) At least one year (6 credit hours) in

social studies, chosen from first-group courses in History, Political Science, Economics, or Sociology, is required. (4) At least one year (6 or 8 credit hours) of a laboratory science (Biology, Botany, Chemistry, Physics, or Zoology), is required.

The remaining hours of the Junior College program (roughly a minimum of 22 to 24 hours) should be devoted to the prerequisite courses required by the prospective major department (as stated following the departmental staff in the courses of instruction section of the CATALOGUE) or recommended by the advisers in the field-of-study major (see pamphlets prepared by the respective advisers), together with appropriate electives.

The *Science* curriculum requirements in English are the same as those of the Arts and Letters curriculum, except that a year of a social study may be substituted for the sophomore requirement in English, Art, or Philosophy; in other words, the sophomore English and social studies requirements are combined, and may be met by taking at least 6 credit hours in English, Art, Classical Languages, Philosophy, or a social study. The foreign-language requirement is the same as for the Arts and Letters curriculum, except that French or German is specified. At least 6 credit hours in Mathematics must be taken; additional work in Mathematics is required of prospective majors in Chemistry or Physics. In science, the student should take courses in both biological and physical sciences, bearing in mind the prerequisites stated by the department under which he expects to major, as well as specified prerequisites in certain departments (such as Mathematics and Chemistry for majors in Physics, or Mathematics and Physics for majors in Chemistry).

A transfer student admitted to Columbian College with deficiencies in freshman or sophomore work (whether in amount or in distribution of courses), corresponding to the program outlined above, is required to begin to make up such deficiencies immediately upon admission to Columbian College, and to carry courses for that purpose each term until all the general education requirements described above are satisfied. Students transferring from the School of Government must complete pre-Columbian College requirements in science and in Sophomore English (or Art, Classical Languages, or Philosophy), as prescribed in the Arts and Letters curriculum.

AMOUNT OF WORK

A full-time student who is not on probation may take ordinarily not more than seventeen credit hours. A student employed more than twenty-four hours a week, who is not on probation, may take not more than ten credit hours.

A full-time student whose quality-point index is 3.50 or higher may take not more than nineteen credit hours. An employed student who

meets the same standard may take not more than twelve credit hours.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean, in order that adjustments in schedule may be made, if necessary, to bring his program within the Faculty's limitations upon the amount of work to be carried by an employed student.

ATTENDANCE

The student is held responsible for all the work of the courses in which he is registered, and all absences must be excused by the instructor in charge before provision is made for the student to make up the work missed. Excessive absence in any course will lead to loss of credit in that course, even though other requirements, such as tests, term-papers, and examinations, are met.

CLASSIFICATION OF STUDENTS

A student who has completed less than thirty credit hours in Columbian College, and who has registered his major at the Office of the Registrar, is classed as a *junior*. A student who has completed thirty credit hours in Columbian College, including at least one course in his major, is classed as a *senior*. A student who has satisfactorily completed the work for the Bachelor's degree, and whose program of study has been approved and filed in the Office of the Registrar, is classed as a *master in course*.

INDEPENDENT STUDY PLAN

Under the independent study plan a student of demonstrated capacity, with special interest in the subject matter of a course, may be permitted to undertake independent study under the personal direction of an instructor, in accordance with the rules of the division in which the subject falls. Credit under this plan is limited to the specific course-credits as designated in the list of courses of instruction in the CATALOGUE.

CORRESPONDENCE AND HOME-STUDY COURSES

No credit is given for work done by correspondence or in home-study courses.

THE BACHELOR'S DEGREES

Upon the satisfactory completion of the undergraduate requirements of Columbian College, the degree of Bachelor of Arts or Bachelor of Science is conferred.

In cooperation with the School of Medicine a seven-year curriculum leading to the combined degrees of Bachelor of Arts and Doctor of Medicine is offered.

REQUIREMENTS FOR THE DEGREES

RESIDENCE

For the residence requirement, see page 39.

SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 35 and 36.

In order to graduate, a student must have a general quality-point index of at least 2.00. In addition, he must have a quality-point index of at least 2.50 in his major subject.* Grades in courses taken at other institutions are not considered in computing the quality-point index.

In computing the quality-point index in the major, all second-group and third-group courses in the major field taken at the George Washington University are included, even though minimum requirements for the major may have been exceeded, except when registration for graduate credit is approved. Grades received in first-group courses are not considered.

Probation.—A student must maintain a quality-point index of at least 2.00, or be placed on probation. A student remains on probation as long as his quality-point index is below 2.00, or until his probation is removed by the Committee on Scholarship.

Suspension.—A student who has a quality-point index below 1.00 or who is placed on probation for a third term, whether successive or after an interval, is suspended.

A student suspended for poor scholarship may apply for readmission after an interval of a calendar year. He must then submit evidence to the Committee on Admission and Advanced Standing that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

For the purpose of these rules, the summer sessions are considered a term.

The foregoing scholarship rules are applied to a student with a limited schedule only when he has undertaken a minimum of fifteen credit hours.

CURRICULUM REQUIREMENTS

The curriculum requirements for the Bachelor's degrees include at least sixty credit hours beyond the requirements of the Junior College (the curriculum in *Arts and Letters* or in *Sciences*) and the satisfactory completion of the major. Each program must be approved by the major department or division and by the Dean.

* Except in a Field-of-Study Major.

At least twenty-four credit hours of the last sixty credit hours counted towards the Bachelor's degree must be taken in subjects * not included in the major field or department. The student should consult his major adviser at each registration regarding the inclusion in his program of suitably distributed electives, with a view to meeting this requirement before graduation.

Except for students registered for the combined degrees of Bachelor of Arts and Doctor of Medicine, not more than twelve credit hours of professional courses may be included in the one hundred and twenty credit hours required for the Bachelor's degrees in Columbian College. Columbian College students electing professional courses under this rule must obtain the approval, in advance, of the Dean of Columbian College.

After selecting a curriculum, a student may not change to another except by permission of the Dean and on condition that he fulfilled the requirements of the curriculum to which he changes as of the date when the change is approved by the Dean.

Each student is required to select and file with the Registrar a choice of major upon entering Columbian College. He may change the major only with the consent of the Dean and of the department or division concerned, and must meet the requirements for the major to which he changes as of the date when the change is approved by the Dean.

First-group courses may be required as prerequisites to undergraduate-major programs, but because of their introductory character may not be counted as part of such programs. (See "Explanation of Course Numbers".)

Examinations for Waiving Curriculum Requirements.—A student desiring to omit a required or prerequisite course may take such examination as the department prescribes, and, on passing satisfactorily, he may be relieved of the curriculum or prerequisite requirement in that subject and may qualify for registration in an advanced course. Passing of this examination shall not entitle him to any credit toward the degree. A student desiring to take such examinations should make written request of the Dean and pay the required fee at the Office of the Comptroller before the date of the examination specified in the University calendar.

Use of Correct English.—Any student whose English in any course whatever is deemed unsatisfactory may be reported by the instructor to the Dean and to the Committee on the Use of English. The Chairman of the Committee may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed by failure to make up any

* Art, Biology, Botany, Chemistry, Classical Languages and Literatures, Economics, English, Geography, Geology, Germanic Languages and Literatures, History, Journalism, Mathematics, Philosophy, Physics, Political Science, Psychology, Religion, Romance Languages and Literatures, Sociology, Speech, Statistics, Zoology.

such deficiency in English to the satisfaction of the Committee and the Dean.

Bachelor of Arts

The work of the junior and senior years, including a major in one of the following major fields, must be approved by the major department or division and by the Dean.

Major Fields.—American Thought and Civilization, Art (Appreciation or Drawing and Painting), Biology, Botany, Chemistry, Economics, English Literature, French Literature, Geography, Geology, Germanic Languages and Literatures, History, International Relations, Journalism, Latin American Civilization and Culture, Mathematics, Philosophy, Physics, Political Science, Psychology, Religion, Sociology, Spanish American Literature, Spanish Literature, Speech (Public Speaking, Theatre, or Speech Correction), Statistics, Zoology.

Combined Degrees of Bachelor of Arts and Doctor of Medicine.—A candidate for the combined degrees of Bachelor of Arts and Doctor of Medicine must: (1) complete the premedical college requirements (see page 15); (2) fulfill the Columbian College residence requirement of at least thirty credit hours; (3) obtain the approval of the Dean of Columbian College at the time of entering the School of Medicine; (4) obtain the recommendation of the Dean of the School of Medicine at the completion of all prescribed courses in the first year of the School of Medicine, at which time the degree of Bachelor of Arts will be conferred (professional work taken at another institution will not satisfy the major requirement for the combined degrees); (5) maintain throughout the entire course the scholarship level required for graduation.

Bachelor of Science

The work of the junior and senior years, including a major in one of the sciences mentioned below, must be approved by the major department or division and by the Dean.

Biological Sciences

Biology
Botany
Zoology

Physical Sciences

Chemistry
Mathematics
Physics
Statistics

THE UNDERGRADUATE MAJOR •

There are two types of undergraduate majors: the field-of-study major; and the departmental major.

• For a complete description of the undergraduate major, see the special bulletin.

THE FIELD-OF-STUDY MAJOR

Each Field-of-Study Major covers a carefully worked out field of co-ordinated study and is under the supervision of the division or divisions concerned.

The *Field-of-Study Major* requires no specific number of credit hours, no specific program of courses, and no specific quality-point index for the major, although the student is required to meet the over-all general requirements for the degree (at least 120 credit hours, plus required physical education, with a quality-point index at 2.00). The Major Examination in the Field-of-Study Major replaces all of the traditional quantitative and qualitative requirements for a major. Ability to pass the Major Examination is assumed to be a convincing demonstration that the student possesses the breadth, depth, and quality of knowledge of his major usually defined in terms of credit hours, courses, grades, and a better-than-average quality-point index. A pamphlet prepared under the direction of the adviser in the field of study and obtainable either from the adviser or from the Office of the Dean of Columbian College provides the information needed by the prospective student, who should place himself under the direction of the appropriate adviser immediately upon completing Junior College work and beginning his junior year (the first senior-college year) in Columbian College.

The Field-of-Study Major places special emphasis on the intellectual development of the individual student. Programs in the same major may vary, depending upon the individual student's background, previous study, reading habits, and aptitudes. The student is expected to consult his adviser frequently, and the special proseminar offered in the field gives him further opportunity for individual advice and direction in pursuing a program especially adapted to his needs and abilities. A close student-adviser relationship is essential for the student's success under the Field-of-Study Major plan.

The following Field-of-Study Majors are offered: (1) American Thought and Civilization, (2) Biology, (3) English Literature, (4) French Literature, (5) History, (6) International Relations, (7) Latin American Civilization and Culture, (8) Philosophy, (9) Spanish American Literature, (10) Spanish Literature, (11) Statistics, (12) Zoology.

Of the Field-of-Study Majors offered, two, those in International Relations and in Biology, extend broadly over the work of their respective divisions; and two, those in American Thought and Civilization and in Latin American Civilization and Culture, involve studies in two divisions, those of Languages and Literatures and of Social Studies. The other Field-of-Study Majors, with the exception of the major in Spanish American Literature, replace departmental majors in their respective fields. A candidate for a Bachelor's degree with a major in English

Literature, French Literature, History, Philosophy, Spanish Literature, Statistics, or Zoology must elect a Field-of-Study Major.

Proseminar in the Major

For the convenience of the student a proseminar is offered in each field of study, under the supervision of the division in which the major is taken. This course, planned and administered by the professor or adviser of the major subject, will advise, guide, and instruct the student in his reading, study, and laboratory exercises in order to assist him in gaining a coordinated knowledge of his field. It is a presentation of the content and methods of the major field as a whole through the organization and coordination of the knowledge obtained in the various formal courses in the major subject and of material not usually included in such courses. This course is not required. Six credit hours, but no qualitative grade, may be assigned. When registered in this course, the student will have the privilege of visiting, subject to the approval of the instructor, any other course offered in the College. (Regular attendance in a course, either for credit or as an auditor, requires registration and payment of tuition.) Proseminars are open only to the student who has been accepted as a candidate under that specific major.

THE MAJOR EXAMINATION

The Major Examination will normally be taken by the student at the close of the senior year; in the case of a student on a limited schedule, the Major Examination may be taken not earlier than one calendar year before graduation. A student who fails to pass a Major Examination may, at the discretion of the Columbian College Committee on Studies, be reexamined at a later regular major-examination period. The educational committees of the respective divisions will have general supervision of the preparation, reading, and grading of Major Examinations. Major Examinations will be held in each regular term on dates fixed by the respective educational committees, but in no case later than January 15 for the fall term, May 15 for the winter term, and August 7 for the summer term.

DEPARTMENTAL MAJORS

Departmental Majors, unlike *Field-of-Study Majors*, are specifically defined in terms of credit hours, required courses, and the attainment of a quality-point index of at least 2.50 in all second-group courses taken in the major field. The minimum specific requirements for Departmental Majors are listed below the staff of instruction of the department concerned in the section of the CATALOGUE devoted to courses of instruction. The Executive Officer of the Department, or his representative at registration, should be consulted concerning the

student's program of courses, and the entire program, including electives, must be approved by the Department. The student is also expected to consult the Executive Officer or adviser in all matters affecting his program of studies, such as changes, substitutions, or withdrawals, and especially concerning his progress in his courses. As far as possible the close student-adviser relationship developed in the Field-of-Study Major will be cultivated also in Departmental Majors.

Until further notice Departmental Majors will be offered in the following: Art, Botany, Chemistry, Economics, Geography, Germanic Languages and Literatures, Journalism, Mathematics, Physics, Political Science, Psychology, Religion, Sociology, and Speech.

THE MASTER'S DEGREES

Upon the satisfactory completion of the graduate requirements of Columbian College, the degree of Master of Arts or Master of Science is conferred.

DEFINITION OF THE MASTER'S WORK

The study leading to the degree of Master of Arts or Master of Science is a comprehensive survey of a field of knowledge. It is a continuation of the work of the student's undergraduate major and involves a greater acquaintance with scholarly method.

The student must satisfy certain minimum requirements as to previous preparation, residence, ability to read an approved modern foreign (European) language, and courses taken; but these requirements, while essential, are regarded primarily as qualifying measures. The student's knowledge of his field, as demonstrated by his thesis and by the results of his Master's Examination (together with such other examinations involving special skills or techniques as the department or division may require), is the basis upon which the Master's degree is conferred.

MASTER OF ARTS

Graduate work leading to the degree of Master of Arts is offered in the following fields.

American Literary and Cultural History, Bacteriology, Biochemistry, Biology, Botany, Chemistry, Economics, English and American Literature, English Literature, French Literature, Geography, Germanic Languages and Literatures, History, International Relations, Latin American Civilization and Culture, Mathematics, Philosophy, Physics, Physiology, Political Science, Psychology, Spanish American Literature, Spanish Literature, Statistics, Zoology.

Special programs involving coordinated work in two or more departments may be arranged with the approval of the appropriate division or divisions.

MASTER OF SCIENCE

Graduate work leading to the degree of Master of Science is offered in the following fields:

Bacteriology, Biochemistry, Biology, Botany, Chemistry, Mathematics, Physics, Physiology, Psychology, Statistics, Zoology.

Special programs involving coordinated work in two or more departments may be arranged with the approval of the appropriate division or divisions.

REQUIREMENTS FOR THE DEGREES

RESIDENCE

An academic year of residence in Columbian College is required, i.e., completion of a minimum of thirty credit hours of work including the thesis, which is counted as the equivalent of six credit hours of course work. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than twenty-seven weeks. Not more than twelve credit hours (which must be approved in advance by the Dean of Columbian College) may be taken in another school or division of this University, and such work may not be counted toward both a degree in that school or division and the Master's degree in Columbian College. No part of the minimum requirement may be taken elsewhere. All work for the degree of Master of Arts or Master of Science must be completed within a maximum of three years, unless the Dean's Council considers the circumstances so unusual as to justify an extension of time.

SCHOLARSHIP

A student whose scholarship is unsatisfactory may be suspended by the Dean upon recommendation of the Division under which the student is working. Regarding the system of grading, see pages 35 and 36.

PROGRAM OF STUDIES

The student's program of studies must be outlined in detail at the beginning of his work, in triplicate, on forms available at the Office of the Dean. Each program is subject to the approval of the department and the division. The program may be revised as the occasion requires, but any change necessitates a repetition of the procedure just described.

Courses numbered from 1 to 100 may not be credited toward the Master's degrees, but may in certain instances be required as a basis for advanced work. (See "Explanation of Course Numbers".)

A student who expects to continue his studies for the degree of Doctor of Philosophy after receiving the Master's degree is strongly advised so

to plan his program from the beginning that work for the lower degree may help to prepare him for the higher.

ADMISSION TO CANDIDACY

A student must be admitted to candidacy before he begins the last half of his work for the Master's degree. Application for admission to candidacy is made on a form obtained at the Office of the Registrar, and must be approved by the appropriate representative of the department or division and by the Dean. If a prospective candidate, in his previous academic work, has not substantially satisfied the prerequisites for the Master's degree, including the undergraduate major as defined by the appropriate department or division, he will not be admitted to candidacy until such deficiency has been made up. He may make up his deficiencies by electing appropriate courses in addition to those counted towards his degree.

Before being admitted to candidacy the student must also show that he has a reading knowledge (certified by the appropriate foreign-language department) of at least one modern foreign (European) language, selected by the division under which he is studying. A student whose field is a modern foreign language or literature may not offer that language in satisfaction of the reading-knowledge requirement. Examinations in modern foreign languages will ordinarily be given only on the dates specified in the University calendar. In exceptional circumstances the respective departments will arrange for examinations at other times.

THE MASTER'S THESIS

The thesis may be of a research, expository, critical, or creative type. The main purpose of a Master's thesis is to demonstrate the student's ability to make independent use of the information and training acquired through his other disciplines, and to furnish objective evidence of his constructive powers in his chosen field. Registration for the thesis must be no later than the beginning of the final year of preparation, unless the professor in charge of the thesis permits registration at the beginning of the final term. The choice of the thesis subject must be approved by the professor in charge of the student's field and recorded in the Office of the Registrar by the date announced in the University calendar. Registration for the thesis is ordinarily made on the basis of three credit hours a term for two successive terms. In exceptional cases, and with the approval of the professor in charge of the thesis, the student may register for the entire six credit hours during a single term. The typewritten thesis in its final form must have the approval of the professor in charge of the student's field and of the educational committee of the division concerned, and must be presented to the Dean by the student not later than

the date announced in the University calendar. Requirements regarding the form of the thesis are stated on page 39, and additional information will be supplied by the Dean.

Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period the student must register for it again, and pay tuition on the same basis as for a repeated course.

THE MASTER'S EXAMINATION

In addition to such other examinations as may be required, the candidate must pass a general written examination on the major subject. Examinations will be held on dates fixed by the respective educational committees, but in no case later than January 15 for the fall term, May 15 for the winter term, and August 7 for the summer term. The provisions of the field-of-study plan for undergraduate majors which concern the general examination for the major also apply to the Master's Examination. A candidate who fails to pass the Master's Examination may, in exceptional circumstances and with the specific approval of the division concerned, repeat the examination, but only after the lapse of one term. If he fails a second time, no further opportunity to take the examination will be permitted.

THE GRADUATE COUNCIL

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Robert Whitney Bolwell, Ph.D., *Chairman of the Graduate Council*

MEMBERS OF THE COUNCIL

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Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*
Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*

* On sabbatical leave winter term 1949-50.

‡ On leave of absence fall term 1949-50.

§ On sabbatical leave fall term 1949-50.

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George Winchester Stone, Jr., Ph.D., *Professor of English Literature*

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Warren Andrew, Ph.D., M.D., *Professor of Anatomy*

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Donald Stevenson Watson, Ph.D., *Professor of Economics*

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William Webster Diehl, Ph.D., *Adjunct Professor of Mycology*

Antonio Alonso, A.M., *Associate Professor of Spanish*

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Dean Burk, Ph.D., *Principal Chemist, National Cancer Institute; Tissue Respiration in Biochemistry*

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James Manson Hundley, B.S., M.D., *Assistant Chief, Laboratory of Biochemistry and Nutrition, and Chief, Section on Physiology and Biochemistry of Nutrition, National Institute of Health; Physiology of Nutrition*

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Ladislav Laszlo Marton, Ph.D., *Physicist, Atomic Physics, Electronics Division, National Bureau of Standards; Electron Optics*

Raymond John Seeger, Ph.D., *Chief, Mechanics Division, Naval Ordnance Laboratory; Theoretical Physics*

Lyman Bradford Smith, Ph.D., *Associate Curator, Division of Phanerogams, Department of Botany, Smithsonian Institution; Taxonomy*

Alberto Vázquez, Ph.D., *Chief, North and West Coast Branch American Republics Area Division, United States Department of State; Latin American Literature*

Henry Welch, Ph.D., *Chief, Division of Penicillin Control and Immunology, United States Food and Drug Administration; Antibiotics*

Willard Hull Wright, D.V.M., Ph.D., *Scientist Director, United States Public Health Service, and Chief, Zoology Laboratory, National Institute of Health; Parasitology*

GENERAL INFORMATION

INTRODUCTORY

The Graduate Council offers a program of advanced study and research leading only to the degree of Doctor of Philosophy. It was established in 1930 to replace the Graduate School which had formerly administered work for the Master's as well as the Doctor's degrees. The Graduate Council provides a doctoral discipline which moves freely across administrative lines dividing departments of instruction or fields of study. It gives personal supervision to a limited number of students, each of whom has his own consultative committee, examinations, and research direction.

ADMISSION PROCEDURE

For admission the student must possess adequate preparation for advanced study, including satisfactory Bachelor's and Master's degrees, or the equivalent, together with acceptable personal qualities and a capacity for creative scholarship. Previous graduate study should have been in the same general field as that proposed for doctoral study.

Before applying, the student should have personal interviews with the Chairman of the Council and the professor in charge of the central field of study. After application and transcripts of previous academic training have been filed, the student meets his personal admission committee which makes its recommendations to the Council. He must demonstrate his ability to read both French and German, one of which must be passed at the time of admission, and he must present all other prerequisites for advanced study specified by the committee.

STUDY FOR THE COUNCIL FELLOWSHIP EXAMINATION

The discipline for the degree is divided into two stages. The first is made up of study in related fields of learning which support the general area of research concentration, culminating in the Council Fellowship Examination. The second stage is composed of research and investigation of a particular project in a special field and the presentation of such research in a written dissertation, culminating in the Final Examination.

At the beginning of the student's program of study leading to the Council Fellowship Examination, a consultative committee is assigned to direct his work in a group of fields of learning, usually five or six in number, deemed necessary to insure his breadth of knowledge and general competence for continuing independent research, as well as to support the dissertation project in his central field. Members of the consultative committee will advise the student concerning the scope and content of these supporting fields, and will assist the student in preparation for his examination in them.

This advanced study may be done by attending courses of instruction and graduate seminars, by conference with members of the student's committee, and by independent means. The examination, however, not credits or grades for work done in courses, is the sole test of the student's ability to enter upon the second phase of his doctoral discipline. The examination is a series of written tests usually extending over a period of one week. The major portion of a day is given to each part of the examination covering one of the fields of study on the student's program. If the results of the examination are satisfactory the student is admitted as a Fellow of the Graduate Council, to pursue his specialized study and research under the supervision of a member of the Council.

RESEARCH, THE DISSERTATION, AND THE FINAL EXAMINATION

After the student has been inducted as a Fellow of the Council and his research program has been arranged, he is responsible only to the member of the Council who directs his research project. As a Fellow, he may attend general meetings of the Council and participate in the programs of research discussion, and enjoy unrestricted use of all the academic facilities of the University. When necessary, the Graduate Council makes provision for sending the Fellow to some other institution, library, or laboratory for special study in connection with his doctoral investigation.

The doctoral dissertation is required of all Fellows as evidence of ability to perform scholarly research and to interpret its results. An extended summary of the dissertation is published in a periodical volume by the University for distribution to other institutions and libraries. Printed copies of detailed regulations concerning the dissertation are supplied to all candidates for the doctorate.

When the completed dissertation has been approved by the member of the Council in charge of the research project, the Fellow is presented for his final examination. This examination is oral and open to the public. The committee of examiners includes not only members of the Council competent in the research field or in closely related subjects,

but also at least two qualified experts from other research institutions brought to the University to participate in the examination. If the Fellow satisfies the examining committee concerning the high quality and originality of his contribution to knowledge as well as his mastery of the scholarship and research techniques of his field, the Council recommends him for the degree of Doctor of Philosophy.

POST-DOCTORAL STUDY

The Council expects its graduates to continue their interest in advanced study and research, and to contribute to its program. All graduates are listed as Associate Fellows and, upon request, will receive notices of all general meetings. They may continue any studies in the University without payment of tuition, and enjoy all University library privileges. Such graduates are required to pay only the usual residence fee in order to establish their active membership in the University. The use of laboratory space and equipment is contingent upon availability, and the cost of all laboratory or special library materials is paid by the graduate. Special arrangements for such privileges must be made with the Chairman of the Council. Post-doctoral work may not be applied toward any degree offered by the University.

REGULATIONS

Candidates and Fellows in the Graduate Council are subject to, and are expected to familiarize themselves with, the regulations regarding REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

RESIDENCE AND CONTINUOUS REGISTRATION

The Graduate Council expects all students to work on their doctoral programs in residence, although there is no formal regulation concerning the minimum amount of time of resident study either in preparation for the Council Fellowship Examination or as a Fellow of the Council engaged in doctoral research. The student who undertakes either part of the doctoral program on full or limited schedule must, in accordance with University regulations, maintain continuous registration under the Graduate Council even when the Council has granted a leave of absence for study or residence elsewhere. Failure to maintain registration in each term of the academic year disrupts the residence status of the student. In such a case, the student must reapply for admission to the Council, under whatever new conditions and regulations are set up by his consultative committee or the member of the Council who directs his research.

TEACHING FELLOWSHIPS AND GRADUATE ASSISTANTSHIPS

A limited number of Teaching Fellowships are assigned annually to certain departments of instruction open to doctoral students registered under the Graduate Council. An announcement regarding qualifications and application for these fellowships will be sent upon request to the Office of the Graduate Council.

In many departments of instruction graduate assistants are appointed to assist in the academic program. Applicants should inquire directly of the executive officer of the department concerned regarding vacancies and details of appointment.

A pamphlet describing details of the Graduate Council program, together with a current list of fields of research offered by the Council, will be sent upon request to the Office of the Graduate Council.

THE SCHOOL OF MEDICINE

THE FACULTY

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Dean of the School of Medicine*
Thomas Martin Peery, A.B., M.D., *Director of Postgraduate Instruction*

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry*
Walter Freeman, Ph.D., M.D., *Professor of Neurology*
Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*
Errett Cyril Albritton, A.B., M.D., *Professor of Physiology*
Roger Morrison Choisser, B.S., M.D., *Professor of Pathology*
Winfred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry*
Leland Wilbur Parr, Ph.D., *Professor of Bacteriology*
Frederick A. Reuter, M.D., *Professor of Urology*
Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology*
Daniel Bruce Moffett, A.B., M.D., *Professor of Oto-rhino-laryngology*
John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology*
Preston Alexander McLendon, B.S., M.D., *Professor of Pediatrics*
Ernest Alfred Watson Sheppard, M.D., C.M., *Professor of Ophthalmology*
Brian Blades, A.B., M.D., *Professor of Surgery*
Paul Kenneth Smith, Ph.D., *Professor of Pharmacology*
James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*
Warren Andrew, Ph.D., M.D., *Professor of Anatomy*
Thomas McPherson Brown, A.B., M.D., *Professor of Medicine*
Lloyd Harvey Mousel, M.S., M.D., *Professor of Anesthesiology*
Chester Elwood Leese, Ph.D., *Professor of Physiology*
Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*
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William Stanbro, M.D., *Associate Professor of Radiology*
Charles Samuel Wise, B.S., M.D., *Associate Professor of Physical Medicine*
Victor Fred Ludewig, A.B., B.S., *Superintendent of the University Hospital*

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Brian Blades

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Carleton Raymond Treadwell
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Brian Blades, *Chairman*

Roger Morrison Choisser

Thomas McPherson Brown

Angus MacIvor Griffin

• The President of the University and the Dean of the School of Medicine are members *ex officio* of all committees.

Joseph Hiram Roe John Parks, *Chairman* Leland Wilbur Parr
Warren Andrew

Lloyd Harvey Mousel, *Chairman*
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John Parks Thomas McPherson Brown, *Chairman* Brian Blades

Thomas Martin Peery, <i>Chairman</i>	
Walter Freeman	Brian Blades
Winfred Overholser	Thomas McPherson Brown
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Ernest Alfred Watson Sheppard	Lewis Kaigler Sweet

INTRODUCTORY

The School of Medicine of The George Washington University was opened in March 1825; of the medical schools now in existence in the United States, it is the eleventh in chronological order of founding. The University Hospital and Outpatient Department were established in 1898 and made a part of the organization of the School.

The School is a member of the Association of American Medical Colleges and is one of the medical colleges which have been designated continuously as "class A" by the American Medical Association. The degrees of the School of Medicine are recognized by all state examining boards.

Each year of the medical curriculum is divided into two terms of sixteen weeks each. Beginning in June 1950, the schedule of the senior year will be on a quarterly basis covering a calendar year. The formal academic assignments will occupy three terms. The fourth term will

be free for the election of additional experience or investigative work, or for vacation. The senior class will be divided into four groups. Group I will be free in the summer; Group II, in the fall; Group III, in the winter; and Group IV, in the spring.

The Faculty of the School of Medicine will organize the electives for the free quarter so as to make them important factors in the program. It is planned that electives may include (1) junior internship; (2) investigative work; or (3) clinical experience under a general practitioner or specialist.

The salient features in the method of instruction are thorough laboratory training, demonstrations, and clinical teaching, with recitations and lectures to clarify the many problems presented. The clinical material in the various hospitals and outpatient departments is utilized to the fullest extent for both clinical instruction and laboratory work.

EQUIPMENT AND FACILITIES

The George Washington University Hospital.—The new hospital, with a capacity of 400 beds, was opened in 1948. This splendid new edifice, which is one of the outstanding hospitals in the United States, is completely furnished with the latest and most scientific apparatus and equipment. Its purpose is to supplement existing hospital resources in the District of Columbia for the care of the sick and the injured; the education of physicians, nurses, and technicians; and the advancement of medical knowledge.

The hospital is staffed and controlled by the Faculty of the George Washington University School of Medicine and it provides excellent clinical material for the instruction of medical students. Virtually every specialty in the fields of medicine and surgery has assigned space and equipment in both the outpatient department and the bed-patient section of this modern institution.

Medical School Building.—The building housing the School of Medicine is a five-story structure with lecture rooms and classrooms, laboratories, and students' rooms.

Laboratories.—A four-story laboratory building is adjacent to the main medical building. The major laboratories are for anatomy, histology and embryology, bacteriology, hygiene and preventive medicine, biochemistry, pathology, pharmacology and physiology, and clinical microscopy. They are fully equipped to enable students to pursue adequately the laboratory courses and to acquire the technical skill necessary in modern clinical and investigative work.

Medical Library.—The Library contains a selected reference collection of more than 10,000 volumes, and provision is made to add to it the important new medical works. The principal medical periodicals are received regularly.

GOVERNMENT LIBRARIES AND MUSEUMS

The Library of the Surgeon General's Office of the United States Army is the most complete general medical library in the world. In addition to its great collections of medical works, all leading medical periodicals of the world are available. This Library, as well as the Library of Congress, the Public Library, and the many excellent libraries of the various government departments, is available to students and teachers through a service maintained by the Medical School Library.

The Army Medical Museum affords opportunity for studying the conditions met in military and general medicine and surgery. Its collection of anatomical and pathological specimens is unequaled by any other museum in this country. The Museum of Hygiene, the National Museum, the Smithsonian Institution, the Botanic Gardens and the Department of Agriculture all afford opportunities for study in Medicine and its allied sciences.

CLINICS

The city of Washington, with about a million inhabitants, provides ample clinical material. The University Hospital and Outpatient Department furnish clinical facilities and a large proportion of the materials studied in the courses in pathology and clinical pathology.

The University Hospital.—All clinics are under the supervision of the Dean, who is also Medical Director of the Hospital. This insures the highest possible utilization of available clinical material for teaching purposes and the proper supervision of clinicians and students; it brings the individual student into direct contact with patients and requires him to do, under authoritative supervision, the clinical and laboratory work necessary for diagnosis and treatment; and it permits proper interpretation of the conditions occurring during the progress of cases and promotes the keeping of adequate records. Clinical and clinico-pathological conferences are held in which the history of cases, the physical findings, laboratory records and the post-mortem pathology, when available, are presented and correlated.

The Outpatient Department.—The Outpatient Department has clinical facilities for each Service in the Hospital. Fourth-year students are assigned in rotation by section for clinical instruction in the Outpatient Department.

Cancer Clinics.—The facilities of the Cancer Detection Clinic are available to medical students. In addition the diagnosis and treatment of various forms of neoplasms are presented. The results of the treatment of neoplasms are evaluated by follow-up studies.

The Helen L. and Mary E. Warwick Memorial, for cancer and allied diseases, was affiliated with The George Washington University in July

1948. The purposes of this clinic are (1) to provide care for cancer patients, through group consultations within a cancer organization, and (2) to provide training for physicians in the field of oncology.

Gallinger Municipal Hospital.—Clinical instruction is available in all branches of medicine. A great wealth of clinical material is afforded in this hospital by ordinance of the municipal authorities of the District of Columbia, whereby patients are assigned for treatment and clinical teaching to members of the Faculty of this School, nominated by this University. Third-year students serve their clinical clerkships at this institution.

Childrens Hospital.—Clinical instruction in pediatrics, dermatology, and orthopedic surgery.

Emergency Hospital and Central Dispensary.—Clinical instruction in medicine, surgery, and the specialties.

Garfield Memorial Hospital.—Clinical instruction in gynecology and obstetrics in the outpatient department, on the wards, and in the operating room.

St. Elizabeths Hospital.—Clinical instruction in mental and nervous diseases, medicine, post-mortem work, and gross pathology. This hospital, with 6,577 beds, is maintained by the United States Government. The psychiatric clinic is one of the largest in the world.

Episcopal Eye, Ear and Throat Hospital.—Clinical instruction in ophthalmology, otology, rhinology, and laryngology.

Mt. Alto Hospital.—Clinical instruction in Medicine and Surgery is available and fourth year students are assigned in rotation by sections for clinical clerkships.

Walter Reed General Hospital.—Clinical instruction is available in all branches of medicine and surgery. Fourth year students are assigned in rotation by sections for clinical instruction.

ADMISSION, REGISTRATION, FEES AND FINANCIAL REGULATIONS

Students in the School of Medicine are subject to, and are expected to familiarize themselves with, the regulations stated on pages 11-23.

Registration in the School of Medicine is for a period of one academic year. After the student has entered the courses of instruction he is obligated for the full tuition for the academic year. No part of the tuition will be refunded upon withdrawal or dismissal for any cause. Acceptance by the School of a student's fees does not in any way obligate the School to accept the student for any subsequent year.

A fee of \$3 to defray the costs of completing the records for final consideration for admission must accompany each application. This fee applies to students whose premedical training was completed at this Uni-

versity as well as to students who have not previously attended this University. Fees for each term are \$325, payable in advance.

Because the number of applicants far exceeds the limit of each class, places can be reserved for only those qualified applicants who remit a deposit of \$100 which will be credited toward the tuition of the first term. Should the matriculant be unable to attend, this initial payment, less a charge of \$50 for registration, transfer, etc., will be returned up to one month before the opening of the term.

Credit for work will not be given until, at the completion of a laboratory course, the student has replaced or paid for all articles of equipment or other University property which he has lost, broken, or destroyed. All breakage or loss not directly traceable to an individual student is assessed *pro rata*.

COST OF TEXTBOOKS AND STUDENT EQUIPMENT

The minimum cost of necessary textbooks and student equipment (microscope, drawing materials, glass slides, clinical thermometer, stethoscope, hemocytometer, etc.) is approximately as follows: first year, \$400; second year, \$250; third year, \$90; fourth year, \$80; total \$820.

A fee of \$1 a term is charged for the use (optional) of a locker.

REGULATIONS

Students in the School of Medicine are subject to and are expected to familiarize themselves with, the general University regulations stated on pages 35-41.

ABSENCE

Absence is not allowed unless an excuse is obtained from the Dean or the instructor.

Absence consists in being away from a class or clinic during a scheduled period, entering after the class or clinic has begun, or leaving before either is dismissed.

Excuse for absence due to sickness must be accompanied by a certificate signed by the attending physician and must be filed in the Office of the Dean.

For every unexcused absence a department will deduct one-half of one per cent from the student's final grade in the subject involved.

GRADES

The following grading system is used: *A* (90-100); *B* (80-89); *C* (75-79); *D* (65-74) condition; *E* (below 64) failure; *Inc.*, incomplete. The passing grade in each subject is *C*.

A student who is conditioned in any subject will not be advanced until such condition is removed and then only by authority of the Committee

on Scholarship. All conditions must be removed at the next make-up examination period provided for this purpose.

EXAMINATIONS

Examinations, which may be written, oral, or practical, will be held at the end of each term.

A student who fails to appear at a regularly scheduled final examination will not be examined until the next regular examination, except by special permission of the Committee on Scholarship. For make-up examinations to remove conditions, a fee of \$5 will be charged for each subject.

All students in the School of Medicine are required to take Part I and Part II of the National Board Examinations, except that students from those states and foreign countries which do not recognize the National Board may be exempted from Part II by action of the Committee on Scholarship.

SPECIAL UNDERGRADUATE AND GRADUATE ADVANTAGES

PHYSICAL EXAMINATIONS *

All first-year students are given a comprehensive physical examination by the Department of Health Administration upon admission to the School of Medicine. The students are informed of the findings and advised regarding such measures as will tend to maintain a high standard of health.

In addition medical students benefit from the complete Tuberculosis Case Finding Program which the School has maintained since 1938-39. Under this program all students receive tuberculin tests, X-ray examinations, and such special attention from chest specialists as is necessary to reduce to a minimum the dangers from tuberculosis to which medical students are believed to be subject. Students are immunized against those diseases for which proven prophylactics exist.

RESERVE OFFICERS' TRAINING CORPS, U. S. ARMY, MEDICAL UNIT

A Medical Unit of the Reserve Officers' Training Corps is established in this School by authority of the Secretary of the Army, and an officer of the Medical Corps of the Army is detailed to the University for supervision and instruction of the unit.

The instruction is divided into two two-year courses, the basic and the advanced. Each course consists of 90 hours a year—58 hours of prescribed medical instruction given by the Medical School and 32 hours of military medical instruction. Students who satisfactorily complete the

* A charge of \$2 is made if a student fails to appear for a physical examination during the period set for this purpose.

basic course may, up to the quota allowed by the Department of the Army, enter the advanced course. Students in the advanced course receive, from the Government, a stipend of approximately \$700.

Students in the advanced course are required to complete the course and to attend a summer training period of six weeks.

A student who successfully completes the course is recommended for a commission in the Medical Corps Reserve, if he desires appointment. It is the policy of the Department of the Army to give preference to graduates of this course in the selection for Army internship.

MEMBERSHIP IN THE UNIT

Membership in the Unit, which is voluntary, is open to any physically fit male student who is a citizen of the United States and who is, at the time of enrollment, within the following specified age limits: under 26 years of age for the basic course, under 29 for the advanced course. For veterans of World War II, there is no age limit until January 1, 1950, for the basic course; until January 1, 1952, for the advanced course. Veterans with a minimum of six months' service receive credit for the first year of the basic course; those with a minimum of twelve months' service receive credit for both years of the basic course.

COMMISSION ON LICENSURE, DISTRICT OF COLUMBIA

Graduates who wish to take the examinations of the Commission on Licensure, District of Columbia, or desire to use the District license for reciprocity with the states, should apply to the Secretary, Commission on Licensure, Healing Arts Practice Act, District Building, Washington 1, D. C.

DEPARTMENTS OF INSTRUCTION

The work of the School is organized under the following departments: Anatomy; Anesthesiology; Bacteriology, Hygiene, and Preventive Medicine; Biochemistry; Dermatology and Syphilology; Medicine; Military Science and Tactics; Neurology and Neurological Surgery; Obstetrics and Gynecology; Ophthalmology; Oto-rhino-laryngology; Pathology; Pediatrics; Pharmacology; Physical Medicine; Physiology; Psychiatry; Radiology; Surgery; and Urology.

CLINICS

Courses of clinical instruction are included in the announcements of the clinical departments. The Dean prepares schedules of clinics and of student section assignments to the various hospitals and dispensaries.

THE DEGREE OF DOCTOR OF MEDICINE

Upon the satisfactory completion of the requirements of the School of Medicine, the degree of Doctor of Medicine is conferred.

REQUIREMENTS FOR THE DEGREE

Every candidate for graduation with the degree of Doctor of Medicine must be at least twenty-one years of age, of reputable character, and free of all indebtedness to the University. He must have satisfied the admission requirements, completed satisfactorily not less than four academic years of study as a matriculated student in Medicine, completed all required courses, and passed satisfactorily all prescribed examinations.

COMBINED ARTS AND MEDICINE CURRICULUM

In order to be recommended for the degree of Bachelor of Arts, the candidate must complete at least ninety credit hours of prescribed college work (at least thirty credit hours and one year of residence must be completed in Columbian College, the senior liberal arts college), and the first year of the medical curriculum. Upon satisfactory completion of the fourth year of the medical curriculum the student becomes eligible for the degree of Doctor of Medicine.

HONORS

A candidate who has completed the four-year medical course with an average grade of *A* may be recommended for graduation "with distinction".

GRADUATE AND POSTGRADUATE OPPORTUNITIES

POSTGRADUATE INSTRUCTION

The School of Medicine offers annually a series of short intensive postgraduate courses, varying somewhat from year to year. The series is designed for physicians in practice. The significant advances in the various specialties are presented, together with summaries of older information. A distinguished Guest Faculty supplements the Staff of the Medical School.

The Kellogg Medical Lectures, inaugurated in 1948, are a series of evening lectures and clinics, designed primarily for physicians practicing in Washington and vicinity. They are also attended by the Faculty, postgraduate students, and members of the senior class of the School of Medicine.

During the academic year 1948-49, approximately 600 physicians were enrolled in postgraduate courses.

INTERN AND RESIDENT TRAINING PROGRAM

The George Washington University offers twenty internships which are divided into two categories of ten straight medical and ten straight surgical. All interns, regardless of the Service to which they are assigned, will be given a period of training in obstetrics and gynecology.

Accredited resident training will be offered in Anesthesiology, Medicine, Neurology, Obstetrics and Gynecology, Ophthalmology, Oral Surgery, Pathology, Radiology, Surgery.

TECHNICIAN TRAINING COURSES

ORTHOPTIC TECHNICIAN TRAINING COURSE

A six-month course, of 675 hours of clinical and classroom work, is offered for the training of orthoptic technicians by the Department of Ophthalmology.

MEDICAL TECHNOLOGISTS COURSE

The course for medical technologists consists of twelve consecutive months of didactic and practical work in all phases of clinical laboratory technique. The course meets the full requirements of the Registry of Medical Technologists and the American Society of Clinical Pathologists. Prerequisite: Biology, twelve credit hours of which at least six must be Zoology. The other six may be elected from: Histology, Embryology, Anatomy, Physiology, Parasitology, and Bacteriology. Chemistry: General Inorganic Chemistry, eight credit hours of which at least four credit hours must be laboratory work. Quantitative Analysis: at least four credit hours with not less than one credit hour of laboratory work. (Organic Chemistry may be substituted for Quantitative Analysis, for the present.) Electives: Sufficient to give a total of 60 hours of college credit. The following courses are highly recommended but they are not required: Physics, Biochemistry, Advanced Bacteriology, and Mathematics.

For application blanks and further information, address the Director of Admissions, The George Washington University, Washington 6, D. C.

THE LAW SCHOOL

THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
—, *Dean of the Law School*

William Cabell Van Vleck, A.B., LL.B., S.J.D., LL.D., *Professor of Law*
Charles Sager Collier, A.B., LL.B., S.J.D., *Professor of Law*
William Thomas Fryer, A.B., LL.B., J.D., *Professor of Law*
Saul Chestertfield Oppenheim, A.M., J.D., S.J.D., *Professor of Law*
Carville Dickinson Benson, A.B., LL.B., S.J.D., *Professor of Law*
James Forrester Davison, A.B., LL.M., S.J.D., *Professor of Law*
James Oliver Murdock, Ph.B., LL.B., *Professor of Law*
Levi Russell Alden, A.M., LL.B., *Adjunct Professor of Law*
George Bowdoin Craighill, A.B., LL.B., *Adjunct Professor of Law*
James Ward Morris, A.B., *Adjunct Professor of Law*
James Robert Kirkland, A.B., LL.M., *Adjunct Professor of Law*
Bolitha James Laws, LL.M., *Adjunct Professor of Law*
Frank Hammett Myers, LL.M., *Adjunct Professor of Law*
Conder Caywood Henry, A.B., LL.B., *Adjunct Professor of Law*
Elliott DeJarnette Marshall, LL.B., *Adjunct Professor of Law*
John Wingfield Jackson, B.S., LL.B., *Adjunct Professor of Law*
John Albert McIntire, A.B., LL.B., *Professorial Lecturer in Law*
William Randall Compton, M.B.A., LL.B., J.S.D., *Professorial Lecturer in Law*
Justin Lincoln Edgerton, A.B., LL.B., *Professorial Lecturer in Law;*
Clerk of the Moot Court
Charles Sylvanus Rhync, LL.B., *Professorial Lecturer in Law*
Karl Rhorer Price, A.B., LL.B., *Professorial Lecturer in Law*
Raymond Stevens Smethurst, B.S., LL.B., *Professorial Lecturer in Law*
Francis Gerald Toye, B.S. in E.E., LL.B., *Professorial Lecturer in Law*
Philip Field Herrick, A.B., LL.M., *Professorial Lecturer in Law*
Louis Loss, B.S., LL.B., *Professorial Lecturer in Law*
George Edward Monk, A.B., LL.M., *Professorial Lecturer in Law*
Harryman Dorsey, A.B., LL.B., *Associate Professor of Law*
Robert McKinney Cooper, Ph.M., J.D., *Associate Professor of Law*

• The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, and Associate Professors constitute the Faculty.

*Leroy Sorenson Merrifield, A.B., LL.B., M.P.A., *Associate Professor of Law*

John Patrick Burke, A.B., LL.B., *Associate Professor of Law*

Donald James Farage, A.B., LL.B., *Associate Professor of Law*

Herman Israel Orentlicher, A.B., LL.B., *Associate Professor of Law*

*August Gottlieb Eckhardt, A.B., LL.M., *Assistant Professor of Law*

James Andrew Durham, A.B., LL.B., M.B.A., *Assistant Professor of Law*

William Leigh Ellis, A.B., LL.M., *Lecturer in Law*

THE DEAN'S COUNCIL ‡

Carville Dickinson Benson

John Patrick Burke

Charles Sager Collier

Robert McKinney Cooper

James Forrester Davison

Harryman Dorsey

James Andrew Durham

*August Gottlieb Eckhardt

Donald James Farage

William Thomas Fryer

*Leroy Sorenson Merrifield

James Oliver Murdock

Saul Chesterfield Oppenheim

Herman Israel Orentlicher

GENERAL INFORMATION

INTRODUCTORY

The George Washington University Law School, established in 1826, discontinued, and reorganized in 1865, is the oldest law school in the District of Columbia. Its course of instruction is planned to prepare its graduates for the practice of law in any of the states of the United States or in foreign countries, the law of which is based on the Anglo-American legal system. It is also designed to prepare students for public service as lawyers in the Federal Government or the governments of the states. In 1900 the School took part in the organization of the Association of American Law Schools and it has been a member of the Association since that time. The School is approved by the Section of Legal Education of the American Bar Association.

ORGANIZATION OF THE ACADEMIC YEAR

The work of the year is organized into three terms known as the fall term, winter term, and summer term. The summer term constitutes a full term of sixteen weeks.

* On leave of absence 1949-50.

‡ The President of the University and the Dean of the Law School are ex officio members of the Council.

THE LIBRARY

The Law School Library of 26,500 volumes contains the official reports of the decisions of the courts of last resort of all the states prior to the National Reporter System and of fourteen states complete to date; the National Reporter System, complete; the reports of the United States Supreme Court and lower federal courts, and the reports of federal administrative agencies; Shepard's Citations for the units of the Reporter System; the English Reprint and English Law Reports; the United States Statutes; the United States Code, Annotated, and the Federal Code, Annotated; reasonably complete sets of statutes of all of the states; the English statutes; the principal English and American digests and encyclopedias; collections of special reports and annotated cases; and the leading textbooks and legal periodicals.

The Library, which is on the fourth floor of Stockton Hall, is open from 9:00 A.M. to 10:00 P.M. each class day (Saturday, 9:00 A.M. to 5:00 P.M.), and from 2:00 to 6:00 P.M. on Sunday.

THE LAW REVIEW

The George Washington Law Review, published by the University, is edited by the Faculty and students of the Law School. It is devoted exclusively to state and federal public law. The location of the University in the national Capital, where the primary sources of federal public law may be observed in operation, affords an unexcelled opportunity for specialization in this field.

The *Review* is edited by a faculty editor-in-chief, a faculty board of associate editors, a board of departmental advisory editors, and a board of student editors. The student editors are chosen each year on the basis of scholarship.

RESEARCH IN PUBLIC LAW

Washington, the capital of the Nation, furnishes unsurpassed advantages for research in the fields of public law. In it are the offices of the major executive departments, the Congress, the Supreme Court of the United States, and four lower federal courts. In the executive departments and among the many independent establishments of the Federal Government there have been estimated to be between seventy-five and one hundred agencies, the activities of which involve the various branches of public law, particularly administrative law. The student of public law can study at first hand the work of these administrative agencies. He also has available as sources for investigation their records of administrative adjudications.

Research in public law will be conducted under the supervision of members of the faculty. The purpose of this research is to furnish means for training specialists in public law, either as government law-

yers or as lawyers representing individuals or corporations in cases in which the Government is a party, and to assist in the analysis, clarification, formulation, and improvement of public law, substantive and procedural.

Candidates for the graduate degrees in the Law School and seniors who are eligible for the degree of Juris Doctor may pursue this work. Other students may be admitted with the special permission of the professor in charge.

COURSE OF STUDY FOR FOREIGN LAWYERS

This course of study is designed to meet the needs of lawyers who come from countries, the legal systems of which are based on the Roman or Civil Law. It attempts to provide for such students a course sufficient to enable them to acquire an understanding of the fundamentals of the common law so that they may work intelligently with common law materials and common law practitioners. In this program the students are not assigned to special classes but work in association with other students in the regular law subjects. No fixed program of required courses is attempted but each student is permitted to work out a program best adapted to his individual needs.

THE STUDENT BAR ASSOCIATION

Every student in the Law School is required to be a member of the Student Bar Association. This is organized to enable the student to become better acquainted with problems of the profession, to develop better professional ideals, and to bring about closer contact with members of the profession engaged in active practice of the law.

The work of the Student Bar Association is carried on by various committees and by group and general meetings of a professional and social nature. From time to time lectures are given by outstanding authorities on legal and professional problems.

Each member of the Student Bar Association receives a subscription to *The George Washington Law Review*.

PRACTICE AND PRACTICE COURT

The curriculum is planned to include such training in the fundamentals of practice as is feasible in a law school. Classroom instruction is conducted in the theories of pleading and procedure, trial and appellate practice, and evidence. This instruction includes grounding in the principles of the new Federal Rules of Civil Procedure. In addition each senior student is required to participate in the work of the Practice or Moot Court. This includes trying a specified number of cases, both

as a senior counsel and junior counsel. For students who are planning to practice patent law, a special section of the court is devoted exclusively to the trial of patent cases. Experience in preparing and arguing appellate court cases is also available through the Case Club Competition.

ORDER OF THE COIF

The Order of the Coif, a national honor society with chapters in thirty-seven law schools, aims "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship". The George Washington University Chapter was established in 1926. Members are elected each year from the highest-ranking 10 per cent of the graduating class of the Law School.

REGULATIONS

Students in the Law School are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

HOURS OF INSTRUCTION

Students without substantial outside employment may take a full-time program of studies in the forenoon classes from 9:00 A.M. to 12:50 P.M.

Primarily for the accommodation of employed students, a regular course may be taken in classes held from 5:50 to 7:40 P.M.

AMOUNT OF WORK

Students without substantial outside employment may take a full-time program of studies in which the majority of credit hours must be in the morning sections. Students with substantial outside employment must take a limited program of studies not exceeding ten hours a week.

ATTENDANCE

Regular attendance on classes is required and is necessary for successful work. A student who is deficient in class attendance in any subject may, by action of the Dean's Council, be barred from taking the examination in that subject.

RESIDENCE REQUIREMENTS

A year's attendance in the evening classes is counted as residence for three-fourths of a year. A student admitted with advanced standing must complete at least one year of residence in this School and pass twenty-eight credit hours with the required average for the degree. A

full-time student enrolled in a schedule of less than ten hours a week shall receive residence credit in the ratio that the hours passed bear to ten. A part-time student enrolled in a schedule of less than six hours a week shall receive residence credit in the ratio that the hours passed bear to six.

GRADES

Grades are indicated by the letters *A*, excellent, 85-100; *B*, good, 75-84; *C*, satisfactory, 65-74; *D*, poor, 55-64—below standard for graduation; and *F*, failed—below 55.

The grades *A*, *B*, *C*, and *D*, mean that the work has been completed and credit given for the subjects.

F, failed, means that no credit will be given. To obtain credit the student must repeat the subject; but a student who has obtained an average of *C* in the work of a calendar year and received a grade of *F* in only one subject may take the next regular examination in that subject, and if on such reexamination he obtains a passing grade he will be given credit in the subject. Both grades are recorded.

EXAMINATIONS

Every student is required to take the regular examinations in the subjects pursued, unless excused by the Dean. A student who, with the consent of the Dean, does not take the examination in a subject with the class in which he is enrolled may take the next regular examination given in the subject.

No special examinations will be given; except that, upon written application to the Dean's Council, showing sufficient cause, a candidate for a degree at a convocation before the next regular examination, if he would be entitled to take a postponed examination, may, at the discretion of the Dean's Council, be given a special examination.

EXCLUSION AND PROBATION FOR POOR SCHOLARSHIP

A student who during a calendar year (from the beginning of the summer term to the end of the winter term) fails in courses aggregating eight or more credit hours will be excluded. Such a student is not eligible to be registered in the Law School or to attend classes. He may, however, be admitted to the next regular examinations in those subjects in which he has made a grade below passing, and if he receives a grade of passing in these subjects with an average sufficient to make his general average not less than *C*, he will be reinstated.

A student not subject to exclusion under the foregoing rule who at the end of a calendar year has failed to maintain a general average of at least *C*, will be on probation during the next calendar year. A student on probation may at the discretion of the Dean be required to reduce his

program of study. A student on probation will be excluded at the end of the probationary year unless he has made grades sufficient to give him a general average of at least *C*.

The general average of a student includes all the grades in all the subjects taken while he is in the Law School working for a particular degree. When a subject is repeated or a reexamination is taken, both the first grade and the subsequent grade or grades are counted in the general average.

In special cases in which it is clear that the student's failure does not indicate lack of ability to pursue the study of law, the student who has become subject to exclusion may be readmitted by vote of the Dean's Council of the Law School.

No student is put on probation or excluded after only one term of law school work.

CLASSIFICATION OF STUDENTS

Students are divided into classes on the completion of credit hours as follows: first year, one through twenty-eight; second year, twenty-nine through fifty-six; third year, fifty-seven or more.

THE DEGREES

IN THE PROFESSIONAL COURSE

These degrees are Bachelor of Laws (LL.B.) and Juris Doctor (J.D.).

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF LAWS

To be recommended for this degree the student must have completed: a residence period of not less than three academic years on a full-time basis (four years on a part-time basis) in an approved law school, the last year to be in this School; and eighty credit hours, with a general average of at least *C*, including the course in Moot Court.

REQUIREMENTS FOR THE DEGREE OF JURIS DOCTOR

This degree is conferred as a recognition of the completion at the George Washington University Law School, with high rank, of the full professional course of not less than three full years (four years on a part-time basis) including experience in research and legal authorship.

To be recommended for this degree the student must have completed: (1) a residence period of not less than three academic years on a full-time basis (four years on a part-time basis) in the Law School; (2) eighty credit hours with a general average of at least *B* including the course in Moot Court and one of the following courses: Comparative Law, Jurisprudence, or one of the graduate seminars; and (3) one year

of acceptable service on the board of student editors of *The George Washington Law Review*, election to which is subject to regulations laid down by the Faculty. Students taking the combined Arts and Law or Engineering and Law course are not eligible for this degree.

HONORS

The degree of Bachelor of Laws or of Juris Doctor "with distinction" will be awarded the student who obtains a general average of *A* in the work for the degree.

IN THE GRADUATE COURSE

These degrees are Master of Laws (LL.M.), Master of Comparative Law (M.Comp.L.), and Doctor of Juridical Science (S.J.D.),

REQUIREMENTS FOR THE DEGREE OF MASTER OF LAWS

To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed with a satisfactory average twenty credit hours of subjects in the graduate curriculum. In individual cases, third- or fourth-year subjects listed in the professional curriculum may be included in the program of study. All requirements for this degree must be completed in this Law School and in a period not exceeding two academic years.

REQUIREMENTS FOR THE DEGREE OF MASTER OF COMPARATIVE LAW

To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have completed satisfactorily twenty-four credit hours of approved subjects in the curriculum of the Department of Law or of such other departments of the University as the faculty of the Law School shall approve.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

To be recommended for this degree the student must have completed a residence period of not less than one academic year. He must have pursued a course of study and research designated by his consultative committee and approved by the Committee on Graduate Students. At the conclusion of his first year of residence, or at such other time as the Committee on Graduate Students may set, the candidate must pass an oral examination in those fields of study selected by the consultative committee. This examination shall be conducted by the consultative committee and such other members of the faculty and qualified experts from other research institutions as may be selected by the Committee on Graduate Students.

Not later than the date specified in the University calendar the candidate must submit to the Dean one typewritten original and two legible and complete carbon copies of his dissertation in its final form. The dissertation must contain a summary of from 2,500 to 3,000 words inserted as an appendix. An additional original typewritten copy of this summary must be submitted for publication. To be acceptable the dissertation must, in the opinion of the examining committee, constitute a substantial contribution to the field of law concerned and be suitable for publication. Additional information will be supplied by the Chairman of the Committee on Graduate Students.

The summaries of accepted dissertations will be printed in a volume forming a number of the University BULLETIN. The successful candidate for the doctorate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.

THE SCHOOL OF ENGINEERING

THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Frederick Morris Feiker, B.S. in E.E., D.Eng., *Dean of the School of Engineering*
Carl Hugo Walther, B.E., M.C.E., *Assistant Dean of the School of Engineering*

Thomas Benjamin Brown, Ph.D., *Professor of Physics*
Norman Bruce Ames, M.S., E.E., LL.B., *Professor of Electrical Engineering*
Arthur Frederick Johnson, M.E., Ph.D., *Professor of Mechanical Engineering*
James Henry Taylor, Ph.D., *Professor of Mathematics*
Frank Mark Weida, Ph.D., *Professor of Statistics*
Frederick Morris Feiker, B.S. in E.E., D.Eng., *Professor of Engineering Administration*
Merle Irving Protzman, Ph.D., *Professor of Romance Languages*
Benjamin Carpenter Cruickshanks, B.S. in M.E., *Professor of Mechanical Engineering*
Bruce Douglas Greenshields, C.E., Ph.D., *Professor of Civil Engineering*
Charles Rudolph Naeser, Ph.D., *Professor of Chemistry*
Carl Hugo Walther, B.E., M.C.E., *Professor of Civil Engineering*
Forest Klaire Harris, Ph.D., *Professorial Lecturer in Electrical Engineering*
Newbern Smith, M.S. in E.E., Ph.D., *Professorial Lecturer in Electrical Engineering*
Waldo Edward Smith, B.E., M.S. in C.E., *Professorial Lecturer in Civil Engineering*
George Jaquet, B.S. in E.E., *Professorial Lecturer on Engineering Administration*
Wolfram Karl Legner, Ph.D., *Associate Professor of German*
Robert Gay Trumbull, B.S. in C.E., *Associate Professor of Mechanical Engineering*
Raymond Pugh Eyman, C.E., *Associate Professor of Civil Engineering*
William Sutton Carley, M.S. in E.E., *Associate Professor of Electrical Engineering*

• The President of the University, the Dean and the Assistant Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Associate Professors, and Assistant Professors constitute the Faculty.

- Averett Howard, A.M., *Associate Professor of Composition*
Charles Edward Greeley, B.S. in M.E., *Assistant Professor of Mechanical Engineering*
Otakar Wenceslaus Kabelac, M.C.E., *Assistant Professor of Mechanical Engineering*
James Joseph Kerley, Jr., A.B. in C.E., *Assistant Professor of Civil Engineering*
Frederick Henry Kohloss, B.S. in M.E., *Assistant Professor of Mechanical Engineering*
Haaren Albert Miklofsky, B.C.E., M.Eng., *Assistant Professor of Civil Engineering*
William Dickinson, M.S. in E.E., *Assistant Professor of Electrical Engineering*
Edgar Stover Walker, B.S. in C.E., *Lecturer in Civil Engineering*
William Gammon Hayward, B.S. in C.E., *Lecturer in Civil Engineering*
Rudolph Michel, M.S., *Lecturer in Mechanical Engineering*
Moses Freedman, B.S. in Eng., *Lecturer in Civil Engineering*
George Francis Strollo, B.S. in C.E., M.C.E., *Lecturer in Civil Engineering*
Ralph Edward Fuhrman, B.S. in C.E., M.S., *Lecturer in Civil Engineering*
Edward Frederick Kelley, M.S., Ae.E., *Lecturer in Mechanical Engineering*
Dwight Edward Shytle, *Lecturer in Electrical Engineering*
Thomas Alvin O'Halloran, B.E.E., *Lecturer in Electrical Engineering*
Bernard Bernstein, B.S., B.M.E., *Lecturer in Mechanical Engineering*
Luther Bertram Nye, Jr., B.E., *Lecturer in Mechanical Engineering*
Alvin Raymond Schwab, B.S., M.S. in Eng., *Lecturer in Civil Engineering*
Asriel Taragin, B.E., *Lecturer in Civil Engineering*
Malcolm Richardson Moore, B.E.E., *Lecturer in Electrical Engineering*
Richard Lee Fenton, B.M.E., *Lecturer in Mechanical Engineering*
Ralph Brady, B.S. in E.E., *Lecturer in Electrical Engineering*
Frank Spaulding Borden, B.C.E., *Lecturer in Civil Engineering*
Jerome Addison Lee, B.S., *Lecturer in Electrical Engineering*
David Carl Colony, Jr., B.C.E., *Lecturer in Civil Engineering*
John Brewster Willis, B.S. in M.E., *Lecturer in Mechanical Engineering*
Raphael David Cahn, B.M.E., *Lecturer in Mechanical Engineering*
William Clayton Justice, B.S. in Eng., *Lecturer in Mechanical Engineering*
Jerome Strauss Antel, Jr., B.S. in E.E., *Instructor in Electrical Engineering*
Mark Kiley, A.M. in Eng., *Instructor in Civil Engineering*

THE DEAN'S COUNCIL *

1950

Benjamin Carpenter Cruickshanks

Charles Edward Greeley

1951

Norman Bruce Ames

Bruce Douglas Greenshields

1952

James Henry Taylor

Charles Rudolph Naeser

GENERAL INFORMATION

INTRODUCTORY

The School of Engineering was organized in 1884 as the Corcoran Scientific School. In 1903 that school was combined with Columbian College in the Department of Arts and Sciences. In 1905 the engineering courses were placed under an administrative organization known as the Washington College of Engineering and in 1909 the name was changed to the College of Engineering and Mechanic Arts. In 1914 the name became the School of Engineering.

Courses leading to the degrees of Bachelor of Civil Engineering, Bachelor of Mechanical Engineering, and Bachelor of Electrical Engineering are accredited by the Engineers' Council for Professional Development, the recognized accrediting body of the engineering profession, composed of representatives of the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, American Society for Engineering Education, the American Institute of Chemical Engineers, and the National Council of State Boards of Engineering Examiners.

REGULATIONS

Students in the School of Engineering are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

AMOUNT OF WORK

Eighteen credit hours, including required physical education, constitute normal full-time work. Nine credit hours constitute normal part-time work.

A full-time student who is not on probation may take ordinarily not more than nineteen credit hours. A student employed more than twenty-four hours a week, who is not on probation, may take ordinarily not more than ten credit hours. A student whose quality-point index is

* Elected by the Faculty. The President of the University and the Dean and the Assistant Dean of the School of Engineering are members ex officio of the council.

3.00 or higher may be permitted by the Dean to exceed these limits by not more than two credit hours.

A student previously unemployed who accepts employment subsequent to registration or at any time during a term is required to report that fact immediately to the Dean, in order that adjustments in schedule may be made, if necessary, to bring his program within the Faculty's limitations upon the amount of work to be carried by an employed student.

ATTENDANCE

The student is expected to attend every meeting of the course in which he is registered fully prepared to carry on the work required. The student is held responsible for all work in the course, and all absences must be excused before provision will be made for him to make up the work missed. Excuses for absences from examinations which have been announced in advance can be obtained only by making written application to the instructor in charge of the course.

THE BACHELOR'S DEGREES

The Bachelor's degrees are: Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering, and Bachelor of Science in Engineering.

The degree of Bachelor of Science in Engineering may be earned with any of the following major fields: Business Administration, Chemistry, Economics, Mathematics, Physics, or Statistics.

REQUIREMENTS FOR THE DEGREES

SCHOLARSHIP

The system of grading and computing scholarship is described in detail on pages 35 and 36.

In order to graduate, a student must have a quality-point index of at least 2.00. No student whose quality-point index is below 2.00 will be admitted to the junior year.

Probation.—A student must maintain a quality-point index of at least 2.00, or be placed on probation. A student remains on probation as long as his quality-point index is below 2.00, or until his probation is removed by the Dean's Council.

Suspension.—A student who has a quality-point index below 1.50 or who is placed on probation for a third term, whether successive or after an interval, will be suspended. A student suspended for poor scholarship may apply for readmission after an interval of one calendar year. He must then submit evidence to the Dean's Council that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

USE OF CORRECT ENGLISH

Any student whose English in any course whatever is deemed unsatisfactory may be reported by the instructor to the Dean's Council. The Council may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed for failure to make up any such deficiency in English to the satisfaction of the Dean's Council.

The foregoing regulation is to be interpreted as applying to both written and spoken English.

RESIDENCE

One year, or thirty-six credit hours, must be completed in residence in the School of Engineering. Summer term work may be counted in residence, but in no case may the period of residence aggregate less than thirty weeks. Unless special permission is granted by the Dean to pursue work elsewhere, the work of the senior or final year must be completed in residence.

CURRICULUM REQUIREMENTS

The satisfactory completion of one of the following curricula of 140 credit hours, exclusive of physical education, is required.

Physical Education is required of all students in the freshman and sophomore years. (See, "Physical Education Requirements", page 38.)

Variations from the prescribed curricula may be made, with the permission of the Dean's Council. A student desiring to omit a required course and substitute another must make written application to the Dean, presenting satisfactory reasons for the substitution; and written approval must be obtained before registration for the course.

FRESHMAN YEAR (FOR ALL ENGINEERING CURRICULA)		Credit Hours
Chem. 11-12	General Chemistry	8
CE 3	Plane Surveying	3
Engl. 1-2	Freshman English	6
Math. 12	Plane Analytic Geometry	3
Math. 19	Differential Calculus	3
ME 1	Engineering Survey and Orientation	1
ME 3	Mechanical Drawing	2
ME 4	Descriptive Geometry	2
Phys. Ed.	See page 38 for statement of requirement.	
*Phys. 6 and 7	General Physics	6
Total.....		34

* The student who begins Physics with Physics 6 or 7 is subject to a qualifying examination. Credit will be given for Physics 5 if not used for entrance requirements.

Bachelor of Civil Engineering

SOPHOMORE YEAR

		Credit Hours
CE 21	Analytical Mechanics: Statics.....	2
CE 22	Analytical Mechanics: Dynamics.....	3
CE 23	Higher Surveying	4
EE 9-10	Elements of Electrical Engineering.....	6
Geol. 21-22	Physical and Historical Geology.....	6
Math. 20	Integral Calculus	3
Phys. Ed.	See page 38 for statement of requirement.	
Phys. 8	General Physics	3
Elective	Economics 1-2 or modern language.....	6
Elective	.....	3
	Total.....	36

JUNIOR YEAR

		Credit Hours
CE 25-26	Engineering Materials.....	4
CE 123	Strength of Materials.....	3
CE 136	Hydraulics	3
CE 140	Materials and Hydraulics Laboratory.....	2
CE 141	Graphic Statics	3
CE 142	Bridge Stresses	3
CE 164	Highway Engineering	3
CE 171	Route Surveying	3
CE 187-88	Engineering Contracts and Specifications.....	4
ME 111-12	Thermodynamics	6
Speech 21	Public Speaking	3
	Total.....	37

SENIOR YEAR

		Credit Hours
CE 147-48	Structural Design	4
CE 149-50	Concrete and Masonry Construction.....	6
CE 151-52	Statically Indeterminate Structures.....	4
CE 181-82	Water Supply and Sewerage.....	6
CE 189-90	Civil Engineering Proseminar.....	2
ME 141-42	Management Problems	4
Elective	.....	7
	Total.....	33

Bachelor of Electrical Engineering

SOPHOMORE YEAR

		Credit Hours
CE 21	Analytical Mechanics: Statics.....	2
CE 22	Analytical Mechanics: Dynamics.....	3
EE 9-10	Elements of Electrical Engineering.....	6
Math. 20	Integral Calculus	3
Math. 132	Differential Equations	3
ME 13-14	Mechanism	4
Phys. Ed.	See page 38 for statement of requirement.	
Phys. 8	General Physics	3
Phys. 55	Physical Measurements	2
Speech 21	Public Speaking	3
Elective	Economics 1-2 or modern language.....	6
	Total.....	35

JUNIOR YEAR		Credit Hours
1. Communications Option		
CE 123	Strength of Materials.....	3
EE 105-6	Direct-Current Laboratory	4
EE 107	Electric Circuits	3
EE 108	Alternating-Current Machinery	3
EE 111-12	Electrical Measurements	4
EE 118	Advanced Network Theory	3
EE 120	Advanced Network Laboratory	2
ME 111-12	Thermodynamics	6
Phys. 132	Electronics	3
Elective	.....	4
Total.....		35

SENIOR YEAR		Credit Hours
CE 25-26	Engineering Materials	4
CE 136	Hydraulics	3
EE 109	Alternating-Current Machinery	3
EE 119	Advanced Network Theory.....	3
EE 121	Advanced Network Laboratory.....	2
EE 133-34	Alternating-Current Laboratory	4
EE 142	Radio Wave Propagation.....	3
EE 146	Radio Wave Propagation Laboratory.....	2
EE 148	Applications of Electronic Devices.....	3
EE 189-90	Proseminar in Electrical Engineering.....	2
Phys. 133	Electronics	3
Elective	.....	4
Total.....		36

JUNIOR YEAR		Credit Hours
2. Power Option		
CE 123	Strength of Materials.....	3
CE 136	Hydraulics	3
EE 105-6	Direct-Current Laboratory	4
EE 107	Electric Circuits	3
EE 108	Alternating-Current Machinery	3
EE 111-12	Electrical Measurements	4
EE 137	Electric Traction	2
ME 111-12	Thermodynamics	6
Phys. 132	Electronics	3
Elective	.....	4
Total.....		35

SENIOR YEAR		Credit Hours
CE 25-26	Engineering Materials	4
EE 109	Alternating-Current Machinery	3
EE 125-26	Principles of Electric Power Transmission.....	4
EE 133-34	Alternating-Current Laboratory	4
EE 138	Industrial Electrical Power Applications.....	2
EE 139	Illumination Engineering	2
EE 140	Electrical Design	3
EE 189-90	Proseminar in Electrical Engineering.....	2
ME 115	Mechanical Laboratory	2
Elective	Business Administration or Economics.....	6
Elective	.....	3
Total.....		36

Bachelor of Mechanical Engineering

SOPHOMORE YEAR		Credit Hours
CE 21	Analytical Mechanics: Statics.....	2
CE 22	Analytical Mechanics: Dynamics.....	3
EE 9-10	Elements of Electrical Engineering.....	6
Math. 20	Integral Calculus	3
ME 7	Machine Drawing	2
ME 8	Mechanism Drawing	2
ME 13-14	Mechanism	4
Phys. Ed.	See page 38 for statement of requirement.	
Phys. 8	General Physics	3
Phys. 55	Physical Measurements	2
Elective	Economics 1-2 or modern language.....	6
Elective	Mathematics	3
Total.....		36

JUNIOR YEAR		Credit Hours
CE 25-26	Engineering Materials	4
CE 123	Strength of Materials.....	3
CE 136	Hydraulics	3
CE 140	Materials and Hydraulics Laboratory.....	2
CE 141	Graphic Statics	3
EE 13-14	Direct- and Alternating-Current Laboratory.....	4
ME 111-12	Thermodynamics	6
ME 141-42	Management Problems	4
Speech 21	Public Speaking	3
Elective	.....	3
Total.....		35

SENIOR YEAR		Credit Hours
ME 115-16	Mechanical Laboratory	4
ME 126	Methods of Manufacture	2
ME 127-28	Machine Design	4
ME 129-30	Power Plants	6
ME 131-32	Heating, Ventilating, Air Conditioning, and Refrigeration	4
ME 133	Combustion Engines	2
ME 139	Fluid Dynamics	3
ME 140	Dynamics of Machinery	3
ME 189-90	Proseminar in Mechanical Engineering.....	2
Elective	.....	5
Total.....		35

Bachelor of Science in Engineering

SOPHOMORE YEAR		Credit Hours
CE 21	Analytical Mechanics: Statics.....	2
CE 22	Analytical Mechanics: Dynamics.....	3
EE 9-10	Elements of Electrical Engineering.....	6
Math. 20	Integral Calculus	3
ME 13-14	Mechanism	4
Phy. Ed.	See page 38 for statement of requirement.	
Phys. 8	General Physics	3
Elective	Business Administration or Speech.....	3
Elective	Economics 1-2 or modern language.....	6
Elective	Mathematics	3
Elective	Physics	3
Total.....		36

JUNIOR YEAR		Credit Hours
CE 25-26	Engineering Materials	4
CE 123	Strength of Materials.....	3
CE 136	Hydraulics	3
CE 140	Materials and Hydraulics Laboratory.....	2
EE 13-14	Direct- and Alternating-Current Laboratory.....	4
ME 111-12	Thermodynamics	6
Elective	.....	13
Total.....		35

SENIOR YEAR		Credit Hours
Bus. Adm. 101	Business Organization and Combination.....	3
Bus. Adm. 102	Business Management	3
Geol. 21-22	Physical and Historical Geology.....	6
ME 141-42	Management Problems	4
Elective	.....	19
Total.....		35

The purpose of the Bachelor of Science in Engineering curriculum is to allow a student who has demonstrated his ability to do better than passing work to center his attention upon a group of subjects in which he has special interest. Major fields may be elected in Business Administration, Chemistry, Economics, Mathematics, Physics, or Statistics. The student's choice of courses in his major field must be submitted to the Dean's Council for approval *before* the beginning of the junior year. The student must comply with such requirements as to subjects, schedules, and scholarship as the department concerned may prescribe.

Curricula recommended by the several departments in which options may be elected are available in the Office of the Dean of the School of Engineering for the guidance of students in arranging their programs. Variations from these curricula may be made to satisfy the needs of the exceptional individual student. However, any variation must be approved in writing by the major department and the Dean's Council.

THE PROFESSIONAL DEGREES

The professional degree of Civil Engineer, Electrical Engineer, or Mechanical Engineer may be conferred upon a graduate of the School of Engineering who has demonstrated his professional ability.

REQUIREMENTS FOR THE DEGREES

1. Application may not be made sooner than three years after graduation, and then only if the candidate has had responsible charge of engineering work.

2. A detailed statement of the candidate's experience, references, the degree sought, and the title of the dissertation must be filed with the Dean eight months before the Commencement at which the degree is to be conferred.

Detailed information concerning the preparation of the dissertation may be obtained from the Office of the Dean.

THE SCHOOL OF PHARMACY

THE FACULTY AND STAFF OF INSTRUCTION *

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*

Charles Watson Bliven, M.S., *Dean of the School of Pharmacy*

Ira Bowers Hansen, Ph.D., *Professor of Zoology*

Lawson Edwin Yocum, Ph.D., *Professor of Botany*

Charles Watson Bliven, M.S., *Professor of Pharmacy*

Alan Thomas Deibert, A.M., *Professor of Romance Languages*

Chester Elwood Leese, Ph.D., *Professor of Physiology*

Calvin Darlington Linton, Ph.D., *Professor of English Literature*

Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*

William Paul Briggs, M.S., Sc.D., *Professorial Lecturer in Pharmacy*

Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*

George Martin Koehl, A.M., *Associate Professor of Physics*

Carleton Raymond Treadwell, Ph.D., *Associate Professor of Biochemistry*

Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*

Jane Gass, M.S., *Assistant Professor of Pharmacology and Pharmacognosy*

John Watson Schermerhorn, B.S. in Phar., *Assistant Professor of Pharmaceutical Chemistry*

Carson Gray Frailey, A.B., LL.B., *Lecturer on Pharmaceutical Law*

Arthur William Jones, Phar.G., *Instructor in Pharmacy*

SEMINAR LECTURERS

James Johnson Durrett, M.S., Phar.G., M.D., *Professorial Lecturer on Drug Control Problems*

Carson Peter Frailey, Phar.D., Sc.D., *Professorial Lecturer on Industrial Pharmacy*

Frederick John Cullen, Phar.G., M.D., *Professorial Lecturer on Drug Manufacture*

James Albert Horton, LL.B., *Professorial Lecturer on Drug Trade Regulations*

John Christian Krantz, Jr., Ph.D., *Professorial Lecturer on Pharmaceutical Research*

Justin Lawrence Powers, Ph.D., *Professorial Lecturer on Official Drug Standards*

* The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

Robert Lee Swain, Phar.D., LL.B., *Professorial Lecturer on Contemporary Pharmacy*

George Potter Larrick, *Professorial Lecturer on Drug Control*

Robert Philipp Fischelis, B.S., Phar.D., Sc.D., *Professorial Lecturer on Pharmaceutical Organizations*

James Anderson Crabtree, M.D., D.P.H., *Professorial Lecturer on Public Health*

COMMITTEES •

ADVISORY COMMITTEE

Howard Bradbury

Augustus Carrier Taylor

THE DEAN'S COUNCIL ‡

Ira Bowers Hansen

Lawson Edwin Yocum

John Watson Schermerhorn

COMMITTEE ON SCHOLARSHIP

Lawson Edwin Yocum, *Chairman*

Ira Bowers Hansen

Robert Corbin Vincent

GENERAL INFORMATION

INTRODUCTORY

In 1867 the foundation for the National College of Pharmacy was laid by the Apothecaries' Association of the District of Columbia. The College was opened in 1872 and continued until 1906, when it became affiliated with The George Washington University.

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education.

The School of Pharmacy is a member of the American Association of Colleges of Pharmacy.

Washington offers many opportunities for the study of pharmacy. Not only are the facilities of government laboratories and libraries open to the student, but the School of Pharmacy is located only a few blocks from the American Institute of Pharmacy building, in which has been established a pharmaceutical museum and library, and research laboratories which have brought to Washington the outstanding men of the profession.

REGULATIONS

Students in the School of Pharmacy are subject to and are expected to familiarize themselves with the regulations concerning ADMISSION, REGIS-

* The President of the University and the Dean of the School of Pharmacy are members ex officio of all committees.

‡ Elected by the Faculty.

TRATION, FEES AND FINANCES as stated on pages 11-23, and the University regulations stated on pages 35-41.

AMOUNT OF WORK

Normal work for any year is that outlined under the head of "Curriculum Requirements", below. A student who wishes to take more than the normal amount of work may do so only with the permission of the Committee on Scholarship, the members of which are guided in their decision by his scholastic record and the extent to which he is employed. A student on probation is limited in the amount of work he may carry.

ATTENDANCE

Except by special permission of the instructor, credit will not be given for any course if absences, including both lecture and laboratory, exceed in number for each term the hours of credit for the term.

Absence consists of being away from a lecture or a laboratory, entering after the lecture or laboratory has begun, or leaving before either is dismissed.

EXAMINATIONS BEFORE STATE BOARDS OF PHARMACY

To be eligible for examination before most state boards of pharmacy the applicant is required to present satisfactory evidence of college graduation and in addition must have had from one to four years of practical experience in a pharmacy where prescriptions are compounded. The student is not encouraged to undertake professional work while attempting a full course of study. A student who maintains a quality-point index of 2.00 or higher, may be granted permission by the Dean to acquire a limited amount of this professional experience by working in a pharmacy while carrying a full schedule. A student who falls below a quality-point index of 2.00 will be required to reduce his academic load, or to limit his professional-experience time to less than twenty-four hours a week.

THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

Upon the satisfactory completion of the requirements of the School of Pharmacy, the degree of Bachelor of Science in Pharmacy is conferred.

REQUIREMENTS FOR THE DEGREE

SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 35 and 36.

In order to graduate, a student must have a general quality-point index of at least 2.00. In addition, he must have a quality-point index of at least 2.50 in all pharmacy courses.

Probation.—A student must maintain a quality-point index of at least 2.00, or be placed on probation where he will remain as long as he fails to attain this index.

Suspension.—A student who has a quality-point index below 1.50 will be suspended. The case of each student who has a quality-point index between 1.35 and 1.50, however, will be considered by the Committee on Scholarship, which may retain him on probation or suspend him.

A student placed on probation for a third term, whether successive or after an interval, will be suspended. A student who receives a grade of *F* in two courses in any one term will be suspended.

A student suspended for poor scholarship may apply for readmission after an interval of a calendar year. He must then submit evidence to the Dean of the School of Pharmacy that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

The foregoing scholarship rules are applied to a student with a limited schedule only when he has undertaken a minimum of fifteen credit hours.

CURRICULUM

The laboratory method of teaching is used. Recitation classes are held in connection with each course in order to provide systematic drill in the subjects.

The curriculum requirements include at least 127 credit hours. The following curriculum leads to the degree of Bachelor of Science in Pharmacy.

Freshman and Sophomore Years

Courses	Did. hrs.	Lab. hrs.	Credit hrs.	Clock hrs.
Courses in the Junior College (see page 59).....	736	1008	70	1744

Junior Year: Fall Term

Courses	Did. hrs.	Lab. hrs.	Credit hrs.	Clock hrs.
Chemistry 151.....	48	48	4	96
Pharmacy 105.....	32	....	2	32
Pharmacy 107.....	48	....	3	48
Physiology 115.....	48	....	3	48
Physiology 117.....	....	48	1	48
Elective	16	96	3	112
Total.....	192	192	16	384

Junior Year: Winter Term

Bacteriology 112.....	48	96	4	144
Chemistry 152.....	32	96	4	128
Pharmacy 102.....	32	96	4	128
Pharmacy 106.....	32	....	2	32
Pharmacy 110.....	48	....	3	48
Total.....	192	288	17	480

Senior Year: Fall Term

Bacteriology 209(d).....	32	....	2	32
• Biochemistry 221.....	32	64	4	96
Pharmacy 103.....	32	96	4	128
Pharmacy 111.....	32	48	3	80
Pharmacy 165.....	48	....	3	48
Total.....	176	208	16	384

* With permission of the Dean, Biochemistry 221-22 may be replaced by other courses, for purposes of specialization.

Senior Year: Winter Term

*Biochemistry 222.....	32	04	4	90
Pharmacy 166.....	32	48	3	80
Pharmacy 176.....	32	....	2	32
Pharmacy 178.....	48	....	3	48
Pharmacy 188.....	32	....	....	32
Pharmacy 192.....	16	48	2	64
Ele tive	16	96	3	112
Total.....	208	256	17	464
Grand total.....	1504	1952	136	3456

THE DEGREE OF MASTER OF SCIENCE IN PHARMACY

Upon the satisfactory completion of the graduate requirements of the School of Pharmacy, the degree of Master of Science in Pharmacy is conferred.

DEFINITION OF THE MASTER'S WORK

The study leading to the degree of Master of Science in Pharmacy is a comprehensive survey of one or more of the fields of knowledge embraced by Pharmacy. It is a continuation of the work of the student's undergraduate major and involves a greater acquaintance with scholarly method.

The student must satisfy certain minimum requirements as to previous preparation, residence, ability to read an approved modern foreign (European) language, and courses taken; but these requirements, while essential, are regarded primarily as qualifying measures. The student's knowledge of his field, as demonstrated by his thesis and by the results of his Master's examination (together with such other examinations involving special skills or techniques as may be required), is the basis upon which the Master's degree is conferred. The foreign language requirement may be waived by faculty action in the instance of students whose field of study at the Master's level may not require such preparation.

REQUIREMENTS FOR THE DEGREE

RESIDENCE

An academic year of residence is required, i.e., completion of a minimum of thirty credit hours of work including the thesis, which is counted as the equivalent of six credit hours of course work. Summer

* With permission of the Dean, Biochemistry 221-22 may be replaced by other courses, for purposes of specialization.

THE SCHOOL OF EDUCATION

THE FACULTY AND STAFF OF INSTRUCTION *

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
James Harold Fox, A.M., Ed.D., *Dean of the School of Education*

Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women*

Frank Mark Weida, Ph.D., *Professor of Statistics*

Mitchell Drese, Ph.D., *Professor of Educational Psychology*

James Harold Fox, A.M., Ed.D., *Professor of Education*

Thelma Hunt, Ph.D., M.D., *Professor of Psychology*

Frances Kirkpatrick, A.M., *Professor of Home Economics*

William Henry Myers, A.M., *Professor of Physical Education for Men*

Burnice Herman Jarman, A.M., Ed.D., *Professor of Education*

Chester Elwood Leese, Ph.D., *Professor of Physiology*

William Cullen French, Ph.D., *Professor Emeritus of Education in Residence*

Meredith Chester Wilson, B.S., *Adjunct Professor of Education*

Ruth Coyner Little, Ph.D., *Professorial Lecturer in Education*

Ray LaForest Hamon, Ph.D., *Professorial Lecturer in Education*

‡ Benjamin Franklin Kyker, A.M., *Professorial Lecturer in Education*

Charles Edward Bish, A.M., Ed.D., *Professorial Lecturer in Education*

Henry Fred Alves, A.M., *Professorial Lecturer in Education*

Cecil Wentworth Morgan, Ph.D., *Professorial Lecturer in Physical Education*

Bernath Eugene Phillips, Ph.D., *Professorial Lecturer in Physical Education*

Helen Bennett Lawrence, A.M., *Associate Professor of Physical Education for Women*

Kathryn Mildred Towne, A.M., *Associate Professor of Home Economics*

Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*

Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*

Blake Smith Root, A.M., Ed.D., *Associate Professor of Education*

* The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

‡ On leave of absence 1949-50.

- Ralph Windsor Ruffner, A.M., Ed.D., *Associate Professor of Education*
 Dorothy Helene Veon, Ed.D., *Assistant Professor of Secretarial Studies*
 Virginia Loretta Dennis, A.M., *Assistant Professor of Physical Education for Women*
 Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*
 Marjorie Tate, A.M., *Assistant Professor of Physical Education for Women*
 Vincent James DeAngelis, B.S. in P.E., A.M. in Ed., *Assistant Professor of Physical Education for Men*
 Jane Frost Hilder, A.M., *Lecturer in Education, Director of Reading Clinic*
 Madaline Kinter Remmlein, Ph.D., J.D., *Lecturer in Education*
 *LuVerne Crabtree Walker, A.M., *Lecturer in Education*
 *Helen Barton Goodwin, A.M., *Lecturer in Education*
 Ralph Waldo Foster, A.M., *Lecturer in Physical Education*
 Camilla Painter Luecke, A.M., *Lecturer in Education*
 Florence Mary Lumsden, A.M., Ed.D., *Lecturer in Education*
 William Samuel Rumbough, A.M., *Lecturer in Education*
 Cannon Chiles Hearne, A.M., *Lecturer in Education*
 Catharine Prentiss, B.S., *Instructor in Physical Education for Women*
 Marie Marguerite Neeb, A.M., *Clinician, Reading Clinic*

COMMITTEES ‡

THE DEAN'S COUNCIL §

1950

Dorothy Helene Veon
 Ralph Windsor Ruffner

1951

Thelma Hunt
 Frances Kirkpatrick

1952

Frank Mark Weida
 Elizabeth Burtner

COMMITTEE ON ADMISSION AND ADVANCED STANDING

The Dean of the School, *Chairman*

Harold Griffith Sutton
 Frances Kirkpatrick
 William Henry Myers

Frank Mark Weida
 Burnice Herman Jarman
 Ruth Harriet Atwell

* On leave of absence 1949-50.

‡ The President of the University and the Dean of the School of Education are members ex officio of all committees.

§ Elected by the Faculty.

COMMITTEE ON SCHOLARSHIP

Blake Smith Root, *Chairman*

William Henry Myers

Helen Bennett Lawrence

Kathryn Mildred Towne

GENERAL INFORMATION

INTRODUCTORY

It is the purpose of the School of Education to prepare teachers, supervisors, and administrators for the higher ranges of educational service and to offer opportunities to teachers of experience to extend their education. The School includes the departments of Education, Physical Education, and Home Economics. It offers both graduate and undergraduate work. Other departments of the University provide general education and subject-matter courses needed for a well-balanced program of teacher education.

The schedule of courses is arranged to meet the convenience of both full-time and part-time students. By attending evening, Saturday, and summer classes, teachers in the schools of Washington and vicinity may complete all the requirements for a degree without giving up their positions.

To help children and adults with reading difficulties, the School of Education operates a reading clinic for diagnosis and treatment.

REGULATIONS

Students in the School of Education are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

AMOUNT OF WORK

A normal program of work for an undergraduate student is fifteen credit hours. A student with a quality-point index of 3.00 or higher may, with the Dean's permission, take eighteen hours. More than eighteen hours may not be taken except by special permission of the Committee on Scholarship.

For an employed student nine credit hours constitute a normal program. A student with a quality-point index of 3.00 or higher for the preceding term may be permitted by the Dean to take twelve or thirteen credit hours.

For a graduate student twelve credit hours, exclusive of the thesis, constitute a normal program. An employed student may not take more than nine credit hours.

THE BACHELOR'S DEGREES

Upon the satisfactory completion of the undergraduate requirements of the School of Education, the degree of Bachelor of Arts in Education, Bachelor of Science in Home Economics, or Bachelor of Science in Physical Education is conferred.

The program of work of each student must be approved by a Faculty adviser. Since each student's program of work will be defined by his particular needs, it is important that the student have a clear conception of his major interest in education, and also that he be familiar with the teaching-certificate requirements in the locality in which he expects to teach.

REQUIREMENTS FOR THE DEGREES

To be recommended for a degree a student must satisfy the admission, residence, scholarship, and curriculum requirements.

RESIDENCE

For full details concerning continuous registration, see page 35.

SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 35 and 36.

In order to graduate, a student must have a quality-point index of at least 2.00.

Probation.—An undergraduate student who fails to maintain a quality-point index of at least 2.00 will be placed on probation. A student remains on probation as long as his quality-point index is below 2.00, or until his probation is removed by the Committee on Scholarship.

Suspension.—An undergraduate student who fails to pass in half or more than half of his work, based on a minimum of sixteen credit hours, will be suspended.

A student who has been suspended for poor scholarship may within ten days appeal his case to the Committee on Scholarship through the Dean. If the case appears to be remediable and the student appears likely to improve in his scholarship thereafter, the Committee may readmit him on probation. A student who has been denied readmission on probation may petition the Committee on Scholarship through the Dean for readmission after the lapse of a calendar year. A student who has been suspended twice will not be readmitted.

CURRICULUM REQUIREMENTS

In any of the following curricula at least thirty credit hours must consist of courses numbered above 100.

Bachelor of Arts in Education

Programs leading to the degree of Bachelor of Arts in Education have three main objectives: (1) provision of general educational backgrounds, (2) a functional command of ideas, concepts, knowledges, and skills in one or more teaching fields, and (3) a mastery of basic professional information and skills adequate for a beginning teacher. Since the contents of teaching fields differ in scope and complexity, some programs are longer than others in terms of credit hours. None require less than 126 credit hours of satisfactory work, exclusive of required Physical Education. Normally, 60 credit hours of the total requirement are completed in the Junior College of the University or in an equivalent institution elsewhere. (See "Education", page 60.)

The general educational backgrounds needed by prospective teachers are obtained through: (1) pre-college education, (2) college courses, (3) work experience, (4) leadership activities, (5) participation in student campus activities, and (6) utilization of off-campus cultural opportunities.

Teaching-field requirements include satisfactory completion of prescribed academic courses in one or more fields, a satisfactory score on the special field examination of the National Teacher Examinations, and satisfactory completion of the prescribed special methods courses. Programs of study are available in the following fields: art, biology, business education, chemistry, elementary education,* English, French, geography, German, history, mathematics, physics, social studies, Spanish, and speech.

The basic professional information and skills needed by beginning teachers are provided through four one-year courses, two in each of the junior and senior years. Lectures and class discussions are closely coordinated with field work. Instruction is differentiated to meet the needs of those preparing to teach on the various levels—elementary school, junior high school, senior high school, and adult.

PROFESSIONAL COURSES		Credit Hours
Education 109-10: Learning and Teaching.....		6
Education 121-22: Society and the School.....		6
Education 131: Common Teaching Skills.....		3
Education 133-34: Observation and Practice Teaching.....		6
Education 136 to 150: Special Methods.....		2-6
Total.....		23-27

Additional information concerning these programs may be obtained by writing to the Dean of the School of Education.

* Only for those who have graduated from a two- or three-year course in a Normal School.

Bachelor of Science in Home Economics

The curriculum leading to this degree is designed to prepare young women for the important responsibility of home-making. The program can be adapted, however, to meet special requirements in nutrition, dietetics, clothing, and other related fields. Each student must plan her work with the assistance of a Faculty adviser in the Department of Home Economics.

GENERAL HOME-MAKING

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Home Economics 53.....	3		Home Economics 152.....	3	
Home Economics 72.....	3		Home Economics 171.....	3	
Home Economics 102.....	3		Home Economics 181.....	3	
Home Economics 123.....	3		Home Economics 192.....	3	
Physiology 115.....	3		Home Economics 197-98.....	6	
Electives.....	15		Psychology 29.....	3	
			Electives.....	9	
Total.....	30		Total.....	30	

Bachelor of Science in Physical Education for Men

There are three curricula leading to this degree. The Dual-Major Teacher's Course is designed to prepare students for teaching positions in smaller schools where it is necessary to teach an academic subject in addition to physical education. The Single-Major Teacher's Course prepares for the teaching of physical education in the larger schools. The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to the teaching of physical education.

The minimum requirements for this degree are sixty-six credit hours, distributed as follows:

DUAL-MAJOR TEACHER'S COURSE

The minimum requirements for this degree are twenty-four credit hours in physical education, eighteen credit hours in education, eighteen credit hours in an academic teaching field, three credit hours in physiology, and three credit hours of electives, distributed as follows:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 121-22.....	6		Education 131.....	3	
Education electives.....	3		Education 133-34.....	6	
Physical Education 102.....	3		Physical Education 103.....	3	
Physical Education 107.....	2		Physical Education 122.....	3	
Physical Education 113-14.....	4		Physical Education 131.....	3	
Physical Education electives.....	3		Physical Education 138.....	3	
Physiology 115.....	3		Academic teaching field.....	9	
Academic teaching field.....	9		Electives.....	3	
Total.....	33		Total.....	33	

SINGLE-MAJOR TEACHER'S COURSE

The minimum requirements for this degree are thirty-five credit hours in physical education, eighteen credit hours in education, three credit hours in physiology, and ten credit hours of electives:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 121-22	6		Education 131	3	
Education electives	3		Education 133-34	6	
Physical Education 102	3		Physical Education 103	3	
Physical Education 107	2		Physical Education 122	3	
Physical Education 109-10	4		Physical Education 124	3	
Physical Education 113-14	4		Physical Education 125	3	
Physical Education 115-16	4		Physical Education 131	3	
Physiology 115	3		Physical Education 138	3	
Electives	4		Electives	6	
Total		33	Total		33

PHYSICAL EDUCATION AND RECREATION COURSE

The minimum requirements for this course are sixty-six credit hours, distributed as follows:

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 121-22	6		Education 131	3	
Physical Education 102	3		Education 133-34	6	
Physical Education 107	2		Physical Education 103	3	
Physical Education 109-10	4		Physical Education 122	3	
Physical Education 113-14	4		Physical Education 131	3	
Physical Education 151-52	6		Physical Education 138	3	
Electives	8		Physical Education 153-54	6	
Total		33	Total		33

Bachelor of Science in Physical Education for Women

There are three curricula leading to this degree. The Dual-Major Teacher's Course is designed to prepare students for teaching positions in smaller schools where it is necessary to teach an academic subject in addition to physical education. The Single Major Teacher's Course prepares for the teaching of physical education in the larger schools. The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to the teaching of physical education.

The minimum requirements for this degree are sixty-six credit hours, distributed as follows:

DUAL OR SINGLE MAJOR TEACHER'S COURSE

The student desiring to prepare herself to teach another subject in addition to Physical Education for Women may do so by choosing her

elective hours from one subject-matter field with the advice of the Dean of the School of Education. Relevant work completed in the Junior College may be counted in this subject-matter field.

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 121-22	.....	6	Education 133-34	.....	6
Physical Education 102	.....	3	Physical Education 119-20	.....	4
Physical Education 103	.....	2	Physical Education 121, 122	.....	6
Physical Education 105-6	.....	6	Physical Education 130	.....	3
Physical Education 111-12	.....	4	Physical Education 131	.....	3
Physical Education 132	.....	1	Physical Education 140	.....	3
Physiology 115	.....	3	Academic teaching field or electives	.....	8
Academic teaching field or electives	.....	8			
Total	.....	33	Total	.....	33

PHYSICAL EDUCATION AND RECREATION COURSE

JUNIOR YEAR		Credit Hours	SENIOR YEAR		Credit Hours
Education 121-22	.....	6	Education 133-34	.....	6
Physical Education 48	.....	2	Physical Education 119	.....	2
Physical Education 102	.....	3	Physical Education 121, 122	.....	6
Physical Education 103	.....	2	Physical Education 140	.....	3
Physical Education 105-6	.....	6	Physical Education 153-54	.....	6
Physical Education 111-12	.....	4	Physical Education 161	.....	3
Physical Education 132	.....	1	Electives	.....	7
Physical Education 151-52	.....	6			
Physiology 115	.....	3	Total	.....	33
Total	.....	33			

THE DEGREE OF MASTER OF ARTS IN EDUCATION

Upon the satisfactory completion of the graduate requirements of the School of Education, the degree of Master of Arts in Education is conferred. This is a professional degree, designed to prepare the student for some particular type of educational service. The program of studies leading to the degree will be selected by the candidate and his adviser from the various related departments of the University to give the student an adequate background in his chosen vocational field. For the prospective high school or junior high school teacher this will ordinarily include study in the subject which he is planning to teach as well as in the field of education.

In accordance with the foregoing general pattern of work, graduate programs of study are available in early childhood education, elementary education in the intermediate grades, elementary school administration, guidance, agricultural education, adult education, physical education, and

the various teaching fields in secondary education. Programs of work for teachers-in-service are differentiated from those for students without teaching experience. Additional information concerning these programs may be obtained by writing to the Dean.

ADMISSION TO CANDIDACY

In addition to admission requirements stated on pages 17 and 18, the applicant for admission to candidacy for the Master's degree must (1) have a general undergraduate quality-point index of at least 2.50, (2) have demonstrated a genuine interest in teaching, and (3) be in possession of personality traits that give promise of better-than-average success as a teacher. Those desiring to prepare for positions in guidance or administration must have had at least two years of successful teaching experience. Candidates who have had no professional courses must satisfactorily complete the required undergraduate professional courses, including Observation and Practice Teaching, in addition to graduate course requirements.

ADVANCED STANDING

Graduate work completed in other accredited institutions of learning may be credited toward the Master's degree, but a minimum of thirty credit hours must be completed at The George Washington University as a matriculated candidate in the School of Education.

Advanced courses completed in excess of the requirements for the Bachelor's degree in this University may be credited toward the Master's degree to the extent of twelve credit hours, provided the work fits in with the student's plan of specialization and is approved in writing by the Dean before being undertaken.

In determining advanced standing at the time of admission or readmission to Master's candidacy at this University, graduate work completed more than three years previously is not counted.

REQUIREMENTS FOR THE DEGREE

PLANS OF STUDY

Two plans of study lead to the degree of Master of Arts. *Plan 1* requires a minimum of thirty hours of graduate credit, including a thesis carrying six hours of graduate credit. *Plan 2* requires a minimum of thirty-three hours of graduate credit, including a course in *Educational Research Methods and Procedures* carrying three hours of graduate credit.

SELECTION OF COURSES

Programs of study under *Plan 1* must include a minimum of twelve credit hours from third group courses in addition to the thesis. Under

Plan 2 a minimum of eighteen credit hours, in addition to the course in *Educational Research Methods and Procedures*, must be from third group courses.

Programs of study must include a minimum of twelve credit hours from courses offered in the Department of Education.

When programs of study include additional academic preparation in one or more teaching fields, undergraduate and graduate courses combined must be at least equivalent to the undergraduate requirements of the Bachelor of Arts degree in the teaching field concerned.

THE THESIS

The thesis required under *Plan 1* must conform to standards prescribed by the Committee on Theses. A statement of these standards may be obtained at the Office of the Dean.

The thesis subject must be approved in writing by the candidate's adviser and recorded in the Office of the Registrar by the date announced in the University calendar. One typewritten original and three legible and complete carbon copies of the thesis in its final form must be presented to the Dean by the candidate not later than the date announced in the University calendar. Requirements regarding the form of the thesis are stated on page 39, and additional information will be supplied by the Dean.

Payment of tuition for the thesis will entitle the candidate, during the academic year of registration, to the advice and direction of the member of the Faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year may be granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period, it must be registered for again, and tuition paid on the same basis as for a repeated course.

COMPREHENSIVE EXAMINATION

In addition to the course examinations, the candidate must pass a professional comprehensive examination which shall take into account his area of specialization.

FIVE-YEAR PROGRAM

A candidate entering the School of Education from the Junior College (or with equivalent preparation) may choose a three-year program leading to the degrees of Bachelor of Arts and Master of Arts in Education to be conferred simultaneously. The first year of this combined program will be devoted to teaching-field preparation; the work of the second year will include the Bachelor of Arts junior-year professional courses and a maximum of eighteen credit hours of graduate courses; that of the third and final year, senior-year undergraduate professional courses and the remaining graduate courses needed for the Master's

degree. Observation and Practice Teaching to be elected in the third year may not be taken for graduate credit. A quality-point index of at least 2.50 must be attained before beginning the work of the senior year and the program must meet all the requirements of the degrees of Bachelor of Arts and the Master of Arts in Education.

THE DEGREE OF DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education cannot be stated in credit hours, but they consist in general of at least two full years of work beyond the degree of Master of Arts in Education or the equivalent. The programs of study are designed to prepare students for administrative or supervisory positions, the teaching of education in normal schools or colleges, the teaching of an academic subject in schools or colleges, or for specialized types of educational service. The work is given a practical rather than a theoretical bent, and emphasizes the mastery and application of subject matter, both in the study requirements and in the dissertation. Special emphasis is placed upon the professional success of the candidate.

The candidate's program of study largely depends upon his previous educational background and his professional objective. Opportunities are provided for study leading to the following professional objectives: school superintendent, secondary school principal, supervisor, director of guidance, director of curriculum development, professor of education, and specialist in educational research.

QUALIFICATIONS OF THE APPLICANT

The candidate for the degree of Doctor of Education must have completed (1) graduate work in fields prerequisite to his objective, equivalent to that required for the degree of Master of Arts in Education in The George Washington University, and (2) at least three years of successful educational experience.

ADMISSION TO CANDIDACY

To be admitted to candidacy for the degree the applicant must be accepted by the Faculty of the School of Education on the basis of an examination conducted by a committee appointed by the Dean. This examination will usually include the following: (1) a written examination involving problems related to the applicant's background; (2) a scholastic-aptitude test; (3) an oral examination.

CONSULTATIVE COMMITTEE

If the applicant is accepted as a candidate, his consultative committee will counsel the candidate and guide his work.

The consultative committee, in cooperation with the candidate, will (1) determine the candidate's fields of study, in each of which the candidate must pass a written examination at least eight months before he presents himself for the degree; (2) formulate a list of course requirements and of readings that will assist him in preparing for these examinations; and (3) designate the tools of investigation that will be needed by the candidate in the prosecution of his study. These tools may include one or more foreign languages, statistical methods, historical criticism, or any others considered essential by the committee. An examination in the tools designated must be passed by the candidate before he takes his comprehensive examination.

THE DISSERTATION

When the candidate has satisfied the requirements of his consultative committee, the committee is dissolved. A member of the faculty, in whose field the topic of the dissertation falls, is then appointed to serve as the candidate's adviser on his dissertation and in his field of specialization, and to recommend him to the Dean for the final oral examination when, in his judgment, the candidate's dissertation is acceptable.

Not later than the date specified in the University calendar the candidate shall submit to the Dean of the School of Education four copies of his dissertation—one typewritten original and three legible and complete carbon copies, on official thesis paper—and also a typewritten summary of the dissertation consisting of not more than 2,500 words. Requirements regarding the form of the dissertation are stated on page 39, and additional information will be supplied by the Dean.

The successful candidate is required, before receiving his degree, to pay a fee to cover the expense of printing the summary of his dissertation.

THE FINAL EXAMINATION

At least three weeks before the degree is to be conferred the candidate must pass an oral examination on his dissertation and on his field of specialization before a committee of the Faculty appointed by the Dean, supplemented by two experts from outside the University appointed by the President. This examination is open to the public and all are privileged to question the candidate. The Dean, or a member of the Faculty designated by him, will preside at this examination.

THE SCHOOL OF GOVERNMENT

THE FACULTY AND STAFF OF INSTRUCTION •

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Arthur Edward Burns, Ph.D., *Acting Dean of the School of Government*

Richard Norman Owens, Ph.D., C.P.A., *Professor of Accounting and Business Administration*

Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*

Warren Reed West, Ph.D., *Professor of Political Science*

Frank Mark Weida, Ph.D., *Professor of Statistics*

Harold Griffith Sutton, M.S., *Professor of Finance*

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*

Ralph Dale Kennedy, Ph.D., *Professor of Accounting and Business Administration*

‡Wood Gray, Ph.D., *Professor of American History*

Thelma Hunt, Ph.D., M.D., *Professor of Psychology*

John Albert Tillema, Ph.D., LL.M., S.J.D., *Professor of Political Science*

John Withrow Brewer, Ph.D., *Professor of International Law*

Arthur Edward Burns, Ph.D., *Professor of Economics*

Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

Donald Stevenson Watson, Ph.D., *Professor of Economics*

James Christopher Corliss, A.M., *Adjunct Professor of Inter-American Economics*

§Henry Furness Hubbard, Ph.D., *Adjunct Professor of Psychology*

William Crane Johnstone, Jr., Ph.D., *Professorial Lecturer in Political Science*

Gerhard Colm, Dr. rer. pol., *Professorial Lecturer in Economics*

Orton Wells Boyd, A.M., C.P.A., *Professorial Lecturer on Accounting*

Arlin Rex Johnson, Ph.D., *Professorial Lecturer on Marketing*

Ralph Aubrey Young, M.B.A., Ph.D., *Professorial Lecturer in Economics*

• The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, and Assistant Professors constitute the Faculty.

‡ On sabbatical leave fall term 1949-50.

§ On leave of absence 1949-50.

- H. F. Arthur Schoenfeld, A.M., *Professorial Lecturer on European Diplomatic History*
 Elmer Boyd Staats, Ph.D., *Professorial Lecturer on Public Administration*
 Joe Lee Jessup, M.B.A., *Professorial Lecturer in Business Administration*
 Edward Campion Acheson, Ph.D., *Associate Professor of Finance*
 Everett Herschel Johnson, Ph.D., *Associate Professor of Statistics*
 Wolfgang Herbert Kraus, Dr. Jur., S.J.D., *Associate Professor of Political Science*
 Roderic Hollett Davison, Ph.D., *Associate Professor of European History*
 Paul Edward Hanchett, Ph.D., *Assistant Professor of Economics*
 James Norman Mosel, A.M., *Assistant Professor of Psychology*
 Albert Raymond Miller, Jr., A.M., *Assistant Professor of Economics*
 Solomon Kullback, Ph.D., *Lecturer in Statistics*
 Allen Dailey Manvel, A.B., *Lecturer on Public Administration*
 William George Torpey, Ph.D., *Lecturer on Public Administration*
 Jonathan Dayton Stoddart, A.M., *Instructor in Political Science*

COMMITTEES •

THE DEAN'S COUNCIL ‡

1950

Wood Gray

Donald Stevenson Watson

1951

John Albert Tillema

John Withrow Brewer

1952

Thelma Hunt

Ralph Dale Kennedy

COMMITTEE ON ADMISSION AND ADVANCED STANDING

The Dean of the School, *Chairman*

Harold Griffith Sutton, *Secretary*

Ralph Dale Kennedy

Donald Stevenson Watson

Arthur Edward Burns

Frank Mark Weida

GENERAL INFORMATION

INTRODUCTORY

The George Washington University has provided undergraduate and graduate training since 1898 in both foreign service and governmental theory and administration.

* The President of the University and the Dean of the School of Government are members ex officio of all committees.

‡ Elected by the Faculty.

It is the purpose of the School to give the student an understanding of the responsibilities under the Constitution of the United States in the conduct of public office—domestic and foreign. This can be accomplished not through any single course but through a curriculum which correlates social, economic, political, historical, and psychological studies.

The program embraces both graduate and undergraduate work. Curricula leading to the Bachelor of Arts degree are offered in Foreign Affairs, Accounting, Business Administration, and Statistics. A graduate curriculum in each of these subjects is also offered. In addition to the fields mentioned above, graduate work is available in Government and Economic Policy, Public Administration, Personnel Administration, and Vocational Counseling.

The Foreign Affairs program is broad, covering international political relations, international trade and finance, and regional studies. Its purpose is to equip students, by providing general background and specialized work, for careers in the field of American foreign relations. The diplomatic service of the United States, the several agencies of government with responsibilities in the international field, the international organizations, and American enterprise abroad offer opportunities in this field.

Governmental service requires special training and background in many other subjects, including economic research, statistical investigation, accounting, administrative management, and personnel administration. The academic background for such work is offered in the various curricula of the School and is described below.

REGULATIONS

Students in the School of Government are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23, and the University regulations stated on pages 35-41.

AMOUNT OF WORK

A full-time student not on probation may take ordinarily not more than seventeen credit hours. A student employed more than twenty-four hours a week, who is not on probation, may take not more than ten credit hours.

A full-time undergraduate student whose quality-point index is 3.50 or higher may take not more than nineteen credit hours. An undergraduate student employed more than twenty-four hours a week, whose quality-point index is 3.50 or higher, may take up to twelve credit hours.

Exceptions to these rules will require the approval of the Dean.

ATTENDANCE

The student is held responsible for all the work of the courses in which he is registered, and all absences must be excused by the instructor in charge before provision is made for him to make up the work missed.

CLASSIFICATION OF STUDENTS

A student who holds an Associate in Arts degree from the Junior College or the equivalent from another accredited institution, and who has registered his choice of one of the prescribed curricula at the Office of the Registrar, is classed as a *junior*. A student who has completed thirty credit hours in the School of Government is classed as a *senior*. A student who has satisfactorily completed the work for the Bachelor's degree, and who has registered his choice of one of the prescribed fields of study at the Office of the Registrar, is classed as a *master in course*.

INDEPENDENT STUDY PLAN

Under the independent study plan a student of demonstrated capacity, with special interest in the subject matter of a course, may be permitted to undertake independent study under the personal direction of an instructor, in accordance with the rules of the division in which the subject falls. Credit under this plan is limited to the specific course-credits as designated in the list of courses of instruction in this CATALOGUE.

THE DEGREE OF BACHELOR OF ARTS IN GOVERNMENT

Upon the satisfactory completion of the undergraduate requirements of the School of Government, the degree of Bachelor of Arts in Government, with a designation of the major field of study, is conferred. The major fields are Foreign Affairs, Accounting, Business Administration, and Statistics.

Students who have a special need for integrating courses from several departments or from more than one major field may request approval, by a faculty committee, of a special major program. The same rules and regulations will apply as in the regularly offered majors.

Requirements for the undergraduate major in Economics and Public Administration are stated under the departments of Economics and Political Science, respectively.

REQUIREMENTS FOR THE DEGREE

SCHOLARSHIP

The system of grading and of computing scholarship is described in detail on pages 35 and 36.

In order to graduate, a student must have the following: (1) a

quality-point index in all of his work of at least 2.00, and (2) a quality-point index of at least 2.50 in his major, normally forty-five to forty-eight credit hours in work of the third and fourth years.

Probation.—A student must maintain a quality-point index of at least 2.00, or be placed on probation, where he will remain as long as his quality-point index is below 2.00.

Suspension.—A student who has a quality-point index below 1.00 or who is placed on probation for a third term, whether successive or after an interval, will be suspended.

For the purpose of these rules, the summer sessions are considered a term.

A student suspended for poor scholarship may apply for readmission after an interval of a calendar year. He must then submit evidence to the Committee on Admission and Advanced Standing that during his absence from the University he has so conducted himself as to indicate that he will profit by readmission. A student suspended twice for poor scholarship will not be readmitted.

A student with a limited schedule is affected by the foregoing scholarship rules only when he has undertaken fifteen credit hours.

CURRICULUM REQUIREMENTS

For recommendation for graduation the School of Government requires, in addition to the appropriate Junior College work (see page 18 and curricula on page 62), a minimum of sixty credit hours during the junior and senior college years, as set forth in one of the following curricula:

Foreign Affairs		Credit Hours
Econ. 181-82...International Economics		6
Geog. 122 or 123...Political or Economic Geography.....		3
Hist. 150.....European Diplomatic History Since 1854		
or Pol. Sc. 171...International Politics		3
Hist. 181-82....Diplomatic History of the United States.....		6
Pol. Sc. 172....International Organization: the United Nations.....		3
Pol. Sc. 181-82...International Law		6
Language	Advanced Composition and Conversation.....	6
Group Option....(To be selected from one of the following groups).....		18
Electives	(To be selected with the approval of the adviser).....	9
Total.....		60

All foreign affairs majors must complete the *required* courses listed above. The group option provides specialization in international politics, or international economics, or a geographic region, depending upon the student's interest. Option groups, however, are not rigid. A combination of courses in different options is possible with the consent of the adviser.

Group I—International Political Relations

This group option (18 credit hours as noted in list above) is composed of courses in the departments of Political Science, History, and Geography which are important to the study of American diplomatic relations. The selection of courses must be made upon consultation with the adviser.

Group II—International Economic Relations

This group option (18 credit hours as noted in list above) is composed of courses offered primarily by the departments of Economics and Business Administration which are important to the study of American economic, financial, and business relationships with foreign countries. The selection of courses must be made upon consultation with the adviser.

Group III—Area or Regional Studies

This group option (18 credit hours as noted in list above) may be selected from courses offered in the departments of Economics, History, Political Science, and Geography, dealing with a geographic region such as Europe, Latin America, or the Far East. This selection must be approved by the adviser.

Accounting

	Credit Hours
Bus. Adm. 115.....Business Finance.....	3
Bus. Adm. 145.....Cost Accounting.....	3
Bus. Adm. 151-52.....Intermediate Accounting.....	6
Bus. Adm. 153.....Advanced Accounting.....	3
Bus. Adm. 157.....Federal Taxation Problems.....	3
Bus. Adm. 165.....Auditing.....	3
Econ. 121-22.....Money and Banking.....	6
Pol. Sc. 127, 128, 129.....Commercial Law.....	9
Curriculum Electives..(To be selected from courses relating to accounting with the approval of the adviser; of these, 6 credit hours must be selected from the Department of Business Administration).....	9
Electives.....(To be selected with the approval of the adviser)...	15
Total.....	60

Business Administration

	Credit Hours
Bus. Adm. 101.....Business Organization and Combination.....	3
Bus. Adm. 102.....Management of Industrial Enterprises.....	3
Bus. Adm. 112.....Personnel Management in Industry.....	3
Bus. Adm. 115.....Business Finance.....	3
Bus. Adm. 128.....Insurance.....	3
Bus. Adm. 171.....Marketing.....	3
Econ. 121-22.....Money and Banking.....	6
Pol. Sc. 127, 128.....Commercial Law.....	6
Curriculum Electives..(To be selected from courses relating to business administration with the approval of the adviser; of these, 9 credit hours must be selected from the Department of Business Administration).....	15
Electives.....(To be selected with the approval of the adviser)...	15
Total.....	60

Foreign Commerce.—Business administration majors who wish to specialize in foreign commerce may request a modification of the above requirements. The modified major excludes some of the above required courses and adds others, such as a third year of foreign language, foreign markets, exporting and importing, economic geography, and other courses relating to overseas trade. Each program must be approved by the adviser.

	Statistics	Credit Hours
Stat. 115-16....	Principles of Statistical Methods.....	6
Stat. 117.....	Analysis of Variance.....	3
Stat. 118.....	Correlation and the Chi-Square Test.....	3
Stat. 155-56....	Mathematical Probability.....	6
Stat. 157-58....	Mathematical Statistics.....	6
Group Option...	(To be selected from one of the following groups).....	24
Electives	(To be selected with the approval of the adviser).....	12
Total.....		60

Group I—Economic and Business

Courses in this group are to be selected by students specializing in economic and business statistics upon consultation with the adviser. These courses are offered by the departments of Economics, Business Administration, and Statistics.

Group II—Education and Psychology

Courses in this group are to be selected by students specializing in educational and psychological statistics upon consultation with the adviser. These courses are offered by the departments of Psychology and Statistics.

Group III—Mathematics and the Biological and Physical Sciences

Courses in this group are to be selected by students specializing in mathematical statistics and statistical applications in the biological and physical science fields. Selections must be made upon consultation with the adviser.

EXAMINATIONS FOR WAIVING CURRICULUM REQUIREMENTS

A student desiring to omit a required course may take such examination as the department prescribes, and, on passing satisfactorily, he may be relieved of the curriculum requirement in that subject and may qualify for registration in an advanced course. Passing of this examination does not entitle the student to any hours of credit toward the degree. A student desiring to take such examinations should make the request of the Dean and pay the required fee.

The candidate for the Master's degree who is deficient in undergraduate preparation may take a comprehensive examination on his undergraduate major field. Passing of this examination entitles the student to admission without taking specific courses to make up his deficiencies.

In courses taken to satisfy undergraduate deficiencies, the student must maintain at least a 3.00 average to be eligible for admission to graduate study.

THE DEGREE OF MASTER OF ARTS IN GOVERNMENT

Upon the satisfactory completion of the graduate requirements of the School of Government, the degree of Master of Arts in Government, with a designation of the major field of study, is conferred. The major fields are Foreign Affairs, Accounting, Business Administration, Business and Economic Statistics, Government and Economic Policy, Public Administration, Personnel Administration, and Vocational Counseling.

Students who have a special need for integrating courses from two or more of the major fields of concentration for the Master's degree may request approval, by a faculty committee, of a special major program. All rules and regulations for the Master's degree will apply to such special programs.

ADMISSION TO CANDIDACY

A student is formally recognized as a candidate for the Master's degree only when his application for candidacy has been approved by the Dean. Application is made on a form obtainable at the Office of the Registrar.

Before being admitted to candidacy for the major in Foreign Affairs or in Government and Economic Policy the student must show a reading knowledge (certified by the appropriate language department) of at least one modern foreign language, to be approved by the Dean. Examinations in modern foreign languages will be given on the dates specified in the University calendar.

REQUIREMENTS FOR THE DEGREE

A minimum of thirty credit hours of work, as outlined in the curricula on pages 142-44, must be completed successfully. Variations from these curricula require the permission of the Dean.

No part of the minimum requirement may be taken in any other institution.

A second-group course (numbered 101-200), taken either in the undergraduate or graduate years, may be counted toward the Master's degree only when registration for advanced credit has been approved at the beginning of the course by the Dean and by the officer of instruction, and provided that the student has done such extra work in the course as may be prescribed by the instructor.

Work completed more than three years prior to registration for the Master's degree will be counted only if the candidate successfully passes an examination on the subject matter of the work offered for credit.

In addition to the course examinations, the candidate must pass a comprehensive written examination in his major field. An oral examination on his thesis may also be required.

No work counted toward a Bachelor's degree may be counted toward a Master's degree.

A student who expects to continue his studies for the degree of Doctor of Philosophy after receiving the Master's degree will be assisted to plan his program so that he can qualify for admission to candidacy for the Doctorate.

RESIDENCE

No credit is granted for work done in absentia, i.e., without formal instruction, except for the thesis, which may be completed in absentia with the permission of the department concerned.

SCHOLARSHIP

A student whose scholarship is unsatisfactory may be suspended by the Dean. Regarding the system of grading, see pages 35 and 36.

CURRICULUM REQUIREMENTS

A normal program includes a minimum of twenty-four credit hours of course work and the thesis (six credit hours), to be selected from the courses listed under the chosen major field, and such other courses as may be necessary. All programs must be approved by the Faculty adviser and the Dean.

Foreign Affairs

Prerequisite: an undergraduate major in foreign affairs, economics, or political science, depending upon the field of specialization. Any course deficiency in such undergraduate majors must be made up.

The Master of Arts program in Foreign Affairs is offered in three fields of specialization: International Economics, International Politics, and Regional Studies.

International Economics.—Graduate courses in economics (numbered 200 and over) in the field of international trade, the balance of payments, international financial policies, and international economic policies form the principal part of this specialization. Graduate courses in economic theory are recommended. Other courses may be included with the consent of the adviser.

International Political Relations.—Graduate courses in political science and history (numbered 200 and over) in international law, international politics, international organization, diplomatic history, and American foreign policy, comprise the principal requirements for this specialization. Related courses may be added with the consent of the adviser.

Regional Studies.—Graduate courses in economics, political science, and history (numbered 200 and over) dealing with a geographic region, such as Latin America, Europe, or the Far East, comprise the principal requirements. Other courses of broader scope in economics, history, and political science are recommended as part of the program. The adviser in all cases must approve such selections.

The listing of graduate courses for these programs is given in the departmental offerings for Economics, History, Political Science, and Geography.

Accounting

Prerequisite: an undergraduate major in accounting or the equivalent. The Master of Arts program in Accounting requires the following courses:

Bus. Adm. 215.....	Corporation Financial Problems.....	3
Bus. Adm. 216.....	Seminar in Business Finance.....	3
Bus. Adm. 251-52....	Seminar in Accounting.....	6

The remaining nine hours are to be selected from graduate courses offered by the Department of Business Administration; however, students interested in governmental accounting should select course work in governmental budgeting offered by the Department of Political Science. All programs must be approved by the adviser.

Business Administration

Prerequisite: an undergraduate major in business administration or the equivalent.

The Master of Arts program in Business Administration requires the following courses:

Bus. Adm. 215.....	Corporation Financial Problems.....	3
Bus. Adm. 281-82....	Business Policy.....	6
Bus. Adm. 291-92....	Seminar in Business Administration.....	6

The remaining nine hours of course work are to be selected from courses in or related to business administration with the approval of the adviser.

Business and Economic Statistics

Prerequisite: an undergraduate major in statistics or the equivalent, coupled with adequate training in economics and business administration.

The Master of Arts program in Business and Economic Statistics requires at least twelve credit hours to be taken from the following:

Statistics 201.....	Design of Experiments.....	3
Statistics 202.....	Theory of Estimation and Testing Hypotheses.....	3
Statistics 203-4.....	The Theory of Econometrics.....	6
Statistics 205-6.....	Advanced Business and Economic Statistics..	6

The remaining twelve hours are to be selected from graduate work offered by the departments of Business Administration, Economics, and Statistics with the approval of the adviser.

Government and Economic Policy

Prerequisite: an undergraduate major in economics or the equivalent.

Graduate courses in economics, especially those in the theory of economic policy, the level of income and employment, national income, economic stabilization, and fiscal policy, comprise the principal part of this program. Graduate courses in economic theory and statistics are recommended to complete the program. These courses and others that may be appropriate, are to be selected with the consent of the adviser.

Public Administration

Prerequisite: an undergraduate major in political science or an undergraduate background in the social sciences appropriate to specialization in this field.

The Master of Arts in Public Administration requires a program comprising graduate courses in governmental organization and functions, budgetary administration and controls, administrative principles and problems, and personnel management. Other related courses in political science and economics are added upon consultation with the adviser.

Personnel Administration

Prerequisite: an undergraduate major in the social sciences, business administration, or education, coupled with courses in personnel psychology, social psychology, or abnormal psychology.

The program requires six graduate credits in personnel administration offered in the Department of Political Science; six graduate credits in psychology relating to personnel work; six graduate credits in labor relations and business administration; the remaining six credits are elective. Each program must be approved by the adviser.

Vocational Counseling

Prerequisite: An undergraduate major in psychology, business administration, or education; or an undergraduate major in the social sciences appropriate to specialization in this field. The undergraduate background should include necessary basic training in such fields as psychology, sociology, statistics, labor economics, and business management or public administration.

The Master of Arts program in Vocational Counseling requires the following courses:

Psychology 227.....	Seminar: Educational and Vocational Guidance	3
Psychology 228.....	Seminar: Techniques of Counseling.....	3
Psychology 229.....	Occupational and Educational Information...	3
Psychology 231.....	Test Construction	3
Statistics 246.....	Personnel Measurement Techniques.....	3

The remaining six hours are elective, with the approval of the adviser.

THE THESIS

The thesis must be registered for not later than the beginning of the final year, unless the professor in charge of the thesis permits registration at the beginning of the final term. The choice of the thesis subject must be approved by the professor in charge and recorded in the Office of the Registrar by the date announced in the University calendar. The typewritten thesis in its final form must have the approval of the professor in charge and must be presented to the Dean by the student not later than the date announced in the University calendar. Requirements in regard to the form of the thesis are stated on page 36, and additional information will be supplied by the Dean.

Payment of tuition for the thesis entitles the candidate, during the academic year of registration, to the advice and direction of the member of the Faculty under whom the thesis is to be written. In case a thesis is unfinished, an additional successive academic year is granted without further tuition payment. If the preparation of the thesis extends beyond the two-year period, it must be registered for again, and tuition paid on the same basis as for a repeated course.

FOREIGN SERVICE REVIEW COURSE

The School of Government is continuing to offer the Summer Review Course, started in 1946, for persons interested in preparing for the written Foreign Service Examination given by the Department of State. The faculty consists primarily of those members of the University staff who have participated in the conduct of similar courses in the past but will also include guest lecturers on domestic and international affairs.

Since this Course is primarily an intensive review of college work already completed, and is offered as a service to the superior graduate student who wishes to prepare for the written Foreign Service Examination, no academic credit will be given.

Subjects to be reviewed during the 1949 Course will include the following: American History and American Diplomatic History; European History and European Diplomatic History; Principles of Economics (including International Economics and Foreign Exchange); Geography; General Statistics; English; Races, Languages, and Religions; Contemporary Affairs.

For further details, including designation by the Department of State, admission requirements, fees, and living accommodations, address The Director, Foreign Service Course, School of Government.

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Elmer Louis Kayser, Ph.D., LL.D., *Dean of the Division of University Students*

Arthur Edward Burns Francis Edgar Johnston
Charles Rudolph Naeser

INTRODUCTORY

REGULATIONS

TRANSFER TO REGULAR STATUS

* The President of the University and the Dean of the Division of University Students are members ex officio of the council.

THE DIVISION OF SPECIAL STUDENTS

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Warren Reed West, Ph.D., *Dean of the Division of Special Students*

THE DEAN'S COUNCIL*

Thelma Hunt

Raymond Pugh Eyman

Fred Salisbury Tupper

GENERAL INFORMATION

INTRODUCTORY

The Division of Special Students was organized in 1944. To this Division may be admitted students who are in the process of qualifying for degree candidacy. Students in this Division are designated "special students".

REGULATIONS

Students in the Division of Special Students are subject to, and are expected to familiarize themselves with, the regulations concerning ADMISSION, REGISTRATION, FEES AND FINANCES stated on pages 11-23; and the University regulations stated on pages 35-41.

SCHOLARSHIP

A student in this Division may be dropped for reasons of scholarship at any time his quality-point index falls below 2.00.

The system of grading and computing scholarship is described in detail on pages 35 and 36.

AMOUNT OF WORK

In each individual case, the schedule will be reduced when it is deemed advisable.

ACADEMIC SCHEDULE

The schedule of the "special student" is made up of courses required in the curriculum to which he wishes transfer. If he has not completed the language requirements of this curriculum at the time of his admission to the University, he must include a language course in his academic schedule until this requirement is met.

TRANSFER TO REGULAR STATUS

A "special student" may be transferred to another college or school of the University only upon complying with the regulations of the specific college or school to which he wishes to transfer. The student should

* The President of the University and the Dean of the Division of Special Students are members ex officio of the council.

familiarize himself with the regulations printed in the University CATALOGUE concerning admission, residence, amount and quality of work. Specifically, he should note that in some cases not more than thirty (30) hours of credit may be transferred from this Division; that the residence requirement of the school to which he is transferring must be met; and that a general quality-point index of 2.00 must be maintained, with an index of 2.50 in the major.

THE SUMMER SESSIONS

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
Mitchell Dreese, Ph.D., *Dean of the Summer Sessions*

The George Washington University is continuing the accelerated program started in 1942. During the summer the University offers a fifteen-week term equivalent to the fall or winter term of the academic year, and two eight-week sessions which together constitute the equivalent of a full term. In addition, the School of Education offers a special six-week session for teachers, with a pre-session of three weeks and a post-session of three weeks. Students may enter the Summer Sessions at the beginning of any of the sessions.

During the summer of 1949, courses are offered in the Junior College, Columbian College (the senior college), the Law School, the School of Engineering, the School of Education, and the School of Government.

For a complete statement concerning summer-term work, see the Summer Sessions catalogue.

COURSES OF INSTRUCTION

COURSES OF INSTRUCTION

On the following pages of this CATALOGUE, under the alphabetically arranged names of the departments of instruction, are listed the courses of instruction offered by the University in the summer of 1949 and in the academic year 1949-50. The courses as here listed are subject to some slight change. The University reserves the right to withdraw any course announced.

HOURS OF INSTRUCTION

Courses of instruction are scheduled in the morning, afternoon, and evening. Evening classes are identical with the daytime sections of the corresponding courses, are taught by the same instructors, and carry the same amount of credit. By taking the evening and summer classes and extending the time of study beyond the customary four years, a student who is able to give only part of his time to college work may complete a regular curriculum and obtain a degree.

EXPLANATION OF COURSE NUMBERS

An odd number preceding the name of the course indicates that the course is offered in the fall term; an even number, that it is offered in the winter term; and a double number (157-58), that it begins in the fall term and continues in the winter term. The letter "x" following an odd course number (e.g., 21x) indicates that the course, normally offered in the fall term, is given in the winter term. The letter "x" following an even course number (e.g., 22x) indicates that the course, normally offered in the winter term, is given in the fall term.

In the departments of the School of Medicine, first-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and fourth-year courses, from 401 to 500.

In the Law School, first-year courses are numbered from 101 to 200; second-year courses, from 201 to 300; third-year courses, from 301 to 400; and graduate courses, from 401 to 500.

In all other schools and colleges the following system of numbering is used:

First-group courses.—Courses numbered from 1 to 100 are planned for students in the freshman and sophomore years. With the approval of the adviser and the dean, they may also be taken by juniors and seniors. In certain instances, they may be taken by graduate students to make up undergraduate deficiencies or as prerequisite to advanced courses, but they may not be credited toward a higher degree.

Second-group courses.—Courses numbered from 101 to 200, are planned

for students in the junior and senior years. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the dean responsible for the graduate work and by the officer of instruction, and when the completion of additional work has been certified by the officer of instruction.

Third-group courses.—Courses numbered from 201 to 300 are planned primarily for graduate students. They are open, with the approval of the officer of instruction, to qualified seniors; they are not open to Junior College students or other undergraduates.

INDICATION OF THE AMOUNT OF CREDIT

The number of credit hours given for the satisfactory completion of a course is, in most cases, indicated in parentheses after the name of the course. Thus, a year course giving three hours of credit each term is marked (3-3), and a term course giving three hours of credit is marked (3). A credit hour usually consists of the completion of one fifty-minute period of class work or of one laboratory period a week for one term.

A dagger (†) preceding the number of a year course indicates that the course may not be entered in the second term and that credit will not be given until the work of both terms has been completed.

ANATOMY

Warren Andrew, Ph.D., M.D., *Professor of Anatomy, Executive Officer*
 Ross Clayton MacCardle, Ph.D., *Professorial Lecturer in Anatomy*
 Paul Calabrisi, A.M., *Associate Professor of Anatomy*
 Victor Henry Esch, M.D., *Instructor in Anatomy*

- | | | |
|---------|---|------------------|
| 101-2 | Gross Anatomy
Regional dissection of the human body supplemented with lectures and quiz sections. Study of X-ray anatomy to emphasize the functional aspects of the position, shape, and relation of the viscera and skeletal components. Eighteen hours a week, fall term; nine hours a week, winter term. | The Staff |
| 103 | Human Embryology
The origin and development of the human body. Special emphasis on the value of embryology in interpreting anatomical anomalies and variations as seen in gross dissection, surgery, obstetrics, and pathology. Three hours a week. | The Staff |
| 105 | Neuro-anatomy
The macroscopic and microscopic study of the central nervous system and the special sense organs. Emphasis on such dynamic aspects as development, pathways, lesions, etc. Six hours a week. | The Staff |
| 106 | Microscopic Anatomy
Study of the detailed minute structure of cells, tissues, and organs of the human body with emphasis on the relation of structure to function. Recognition and interpretation of histological sections tested by practical examinations. Six hours a week. | The Staff |
| 201-2 | Seminar
Reports and discussions of special topics by the staff and graduate students. Regular medical students are encouraged to attend. One hour a week. | The Staff |
| 295-96 | Research
Hours and credits to be arranged. | The Staff |
| 299-300 | Thesis (3-3) | The Staff |

ANESTHESIOLOGY

Lloyd Harvey Mousel, M.S., M.D., *Professor of Anesthesiology, Executive Officer*

Donald Harrison Stubbs, A.M., M.D., *Clinical Professor of Anesthesiology*

Charles Seymour Coakley, M.D., *Assistant Professor of Anesthesiology*

Seymour Alpert, A.B., M.D., *Instructor in Anesthesiology*

William Bageant, M.D., *Clinical Instructor in Anesthesiology*

261 *Anesthesiology*

The Staff

Review of basic sciences and correlation between basic sciences and clinical work. One hour a week.

433-34 *Advanced Anesthesiology*

The Staff

Fourth-year students are rotated through the work of the department for a period of two weeks for each student and assigned to work in operating rooms, conferences, and seminars.

480 *Research*

The Staff

Hours to be arranged.

ART

Norris Ingersoll Crandall, M.Arch., *Professor of Art, Executive Officer*
Donald Chenoweth Kline, B.Arch., *Associate Professor of Art*

STAFF IN THE CORCORAN SCHOOL OF ART

DRAWING AND PAINTING: Richard Lahey, *Principal*, Eugen Weisz,
Edmund Archer, Jessalee Sickman, Kenneth Stubbs, Omar Carrington

SCULPTURE AND CARVING: Heinz Warneke

COMMERCIAL ART: Henry Liebschutz, William Sholar, Charles Isbell

The major in art appreciation (Departmental).—Prerequisite: Art 11-12 and 71-72. Required: Art 101-2, 121-22, 141-42, 151-52, and 161-62.

The major in drawing and painting (Departmental).—Prerequisite: Art 11-12. Required: Art 121-22, and at least thirty-six credit hours of drawing and painting. The classes in drawing and painting are held at the Corcoran School of Art.

FIRST GROUP

11-12 *Art Appreciation (3-3)* Crandall
An introduction to the appreciation of the fine arts and to the interpretation of the paintings of the old and modern masters. Morning and evening sections.

67-68 *Life and Portrait—Drawing and Painting (6-6)* Archer, Stubbs
Morning, afternoon, and evening sections.

71-72 *Introduction to the Arts in America (3-3)* Kline
Painting, sculpture, architecture, furniture, music, and folk arts. Morning, afternoon, and evening sections.

73-74 *Still Life and Portrait—Drawing and Painting; Antique Drawing (6-6)* Sickman, Carrington
Morning, afternoon, and evening sections.

SECOND GROUP

101-2 *The Design of the Home (3-3)* Crandall
The history and development of the home, and home furnishings in relation to home design. 1949-50 and alternate years, afternoon. 1950-51 and alternate years, evening.

121-22 *World History of Art (3-3)* Kline
The fine arts from ancient times to the present. Prerequisite: Art 11-12. 1949-50 and alternate years, afternoon. 1950-51 and alternate years, evening.

- 141-42 *Interior Decoration* (3-3) Kline
The selection and use of furniture, wall and floor coverings, draperies, and lighting. 1949-50 and alternate years, evening. 1950-51 and alternate years, afternoon.
- 143-44 *Folk Arts of America* (3-3) Kline
Woodcarving, painting, ceramics, glass, furniture, and music. (Not offered in 1949-50.)
- 151-52 *Modern Art* (3-3) Crandall
The interpretation of the fine arts of the nineteenth and twentieth centuries of Europe and the Americas. Prerequisite: Art 11-12. 1949-50 and alternate years, evening. 1950-51 and alternate years, afternoon.
- 161-62 *History of Art Criticism* (3-3) Crandall
A survey of art criticism from ancient Greece to the present. Admission by permission of the instructor. Evening.
- 165-66 *Life and Portrait—Drawing and Painting* (6-6) Lahey, Weisz, Archer
Morning, afternoon, and evening sections.
- 175-76 *Composition* (6-6) Weisz
Design and pictorial organization; drawing and painting. Afternoon.
- 179-80 *Sculpture* (6-6) Warneke
Portrait-life modeling and composition in clay, plaster and wood carving. Afternoon and evening sections.
- 183-84 *Design and Commercial Art* (6-6) Liebschutz, Sholar, Isbell
Prerequisite: One year (6 hours daily) in a professional art school or the equivalent, or by permission of the instructor. Morning, afternoon, and evening sections.
- 185-86 *Advanced Commercial Art*
Credits to be arranged. (Not offered in 1949-50.)

BACTERIOLOGY, HYGIENE, AND PREVENTIVE MEDICINE

Leland Wilbur Parr, Ph.D., *Professor of Bacteriology, Executive Officer*
Angus MacIvor Griffin, Ph.D., *Professor of Bacteriology*
Ralph Gregory Beachley, M.D., Dr.P.H., *Adjunct Professor of Public
Health Practice*
Mary Louise Robbins, Ph.D., *Assistant Professor of Bacteriology*
Lewis Walke McIlhany, M.S., M.D., *Clinical Instructor in Public
Health Practice*
William Gray McCarten, B.S., *Associate in Bacteriology*

SEMINAR LECTURERS

Charles Armstrong, B.S., M.D., Sc.D., *Professorial Lecturer in Pre-
ventive Medicine*
Rolla Eugene Dyer, A.B., M.D., LL.D., *Professorial Lecturer in Pre-
ventive Medicine*
Royd Ray Sayers, A.M., M.D., *Professorial Lecturer on Industrial
Hygiene*
Sara Elizabeth Branham, Ph.D., M.D., Sc.D., *Professorial Lecturer in
Preventive Medicine*
Chester Wilson Emmons, Ph.D., *Professorial Lecturer on Medical My-
cology*
Willard Hull Wright, D.V.M., Ph.D., *Professorial Lecturer on Medical
Zoology*
John Roderick Heller, Jr., B.S., M.D., *Professorial Lecturer on Venereal
Disease Control*
Carl John Lauter, M.S., *Professorial Lecturer on Municipal Sanitation*
Robert Carter Cook, *Professorial Lecturer on Medical Genetics*
Robert Hanna Felix, M.D., M.P.H., *Professorial Lecturer on Mental
Hygiene*

112 General Bacteriology (4)

Griffin, Robbins

A study of the fundamentals of bacteriology, including industrial and hygienic applications. Several groups of bacteria, yeasts, and molds are studied in the laboratory. Material fee, \$7.50. Tues., Thurs., and Sat., 9:10 to 12:00 A.M.

- 209 *Medical Microbiology* (1-13) Parr and Staff
Bacteria, rickettsia, viruses, yeasts, molds, protozoa, and metazoa which relate to the health and diseases of man—cultural study of most important forms; methods of diagnosis by microscopic, cultural, immunologic, and animal reaction method; theory and methods of immunology; vaccines; serums; antibiotics; epidemiology and fundamentals of preventive medicine and public health practice. Open to suitably prepared graduate students; may be elected as a whole or in part, with credit allocated as follows: (a) *Bacteriology*, including rickettsia and viruses (7); (b) *Parasitology*, including medical mycology (3); (c) *Immunology* (1); and (d) *Epidemiology and Fundamentals of Preventive Medicine and Public Health* (2)—required of Pharmacy majors—Tues., 8:00 A.M. and Thurs., 9:00 A.M.
- 219-20 *Advanced Microbiology* Griffin and Staff
Special study of advanced methods and current problems in microbiology for suitably qualified students specializing in microbiology. Prerequisite: *Bacteriology* 112 or 209. Chemistry 151-52 or the equivalent. Time and credits to be arranged.
- 295-96 *Research in Bacteriology* The Staff
Time and credits to be arranged.
- 299-300 *Thesis* (3-3) The Staff
- 305-6 *Staff Seminar* (1-1) The Staff
Bi-weekly throughout the year.
- 401-2 *Public Health Practice* (1-1) Beachley
Study of public health practice at national, state, city, and county levels. Public and private agencies. Sat., 10:00 A.M.
- 404 *Industrial Hygiene* (1) Sayers
For senior medical students and qualified graduate students. Lecture course dealing with the problems of health maintenance and disease prevention and cure as affected by industry. Time to be arranged.

BIOCHEMISTRY

Joseph Hiram Roe, Ph.D., *Professor of Biochemistry, Executive Officer*
 *Arnold Kent Balls, Ph.D., *Adjunct Professor of Enzymology*
 William Henry Sebrell, Jr., M.D., *Professorial Lecturer on Nutrition*
 George Washington Irving, Jr., Ph.D., *Professorial Lecturer on Proteins*
 Carleton Raymond Treadwell, Ph.D., *Associate Professor of Biochemistry*
 Mary Barbara Mills, Ph.D., *Assistant Professor of Biochemistry*

- 113-14 *Biochemistry* Roe and Staff
 Physiological and clinical chemistry for the first-year medical student. Two lectures and two three-hour laboratory periods a week.
- 221-22 *Biochemistry* (4-4) Treadwell
 A lecture and laboratory course for nonmedical students. Prerequisite: Chemistry 22 and 152. Material fee, \$12 a term. Tues. and Thurs., 9:00 to 12:00 A.M. and 1:00 to 2:00 P.M.
- 224 *Biochemistry of the Enzymes* Balls
 Lecture course dealing with the biochemistry of the enzymes and enzyme reactions. Prerequisite: Biochemistry 113 or 221. (Not offered in 1949-50.)
- 225 *Biochemical Preparations* The Staff
 Material fee, \$10. Time and credits to be arranged.
- 226 *Biochemical Laboratory Methods* The Staff
 Material fee, \$12. Time and credits to be arranged.
- 227-28 *Biochemistry Seminar* (1-1) Roe
 The current literature in the field of biochemistry, mainly for graduate students, but open to a limited number of specially qualified medical students. Fri., 4:45 P.M.
- 231 *Proteins and Amino Acids* (1) Irving
 A lecture course. Prerequisite: Biochemistry 114 or 222. Mon., 4:45 P.M.
- 295-96 *Research in Biochemistry* Roe, Treadwell
 Time and credits to be arranged.
- 299-300 *Thesis* (3-3) Roe
- 404 *Applied Nutrition* (1) Sebrell
 For senior medical students and graduate students. Lecture course upon dietary requirements, deficiency diseases, and therapeutic diets. Prerequisite: Biochemistry 114 or 222. Sat., 10:00 A.M.

* On leave of absence 1949-50.

BIOLOGY *

Paul William Bowman, Ph.D., *Professor of Biology, Executive Officer*
Sam Clark Munson, M.S., *Assistant Professor of Biology*
Robert Carter Cook, *Lecturer on Genetics*
Paul Louis Illg, A.M., *Lecturer in Biology*

The major in Biology (Field-of-Study).—Students will be required to demonstrate in the Major Examination a reasonable knowledge and understanding of the classification and life histories of plants and animals, ecology, geology, evolution, heredity, the physical and cultural development of man, public health problems, and the history of biology. The course offerings will be correlated and supplemented by supervised study in the proseminar. For details, see the pamphlet, which is available in the Office of the Dean of Columbian College, or consult the Executive Officer of the Department.

FIRST GROUP

1-2 *Survey in Biology* (3-3)

Munson, Illg

Systematic study of the plant and animal kingdoms, with emphasis upon the interdependences of living things and their relations with their environments. Introduction to evolution, heredity, public health, and conservation. Material fee, \$4.50 a term. Lecture (1 hour)—afternoon and evening sections; laboratory (2 hours)—morning, afternoon, and evening sections; field trip to nearby countryside and to museums and other places of biological interest (3 hours)—morning and afternoon sections. (Also offered 1949 summer term.)

Biology 1x—same as Biology 1, but offered winter term. Morning.

SECOND GROUP

115-16 *Cytology* (3-3)

Bowman

Study of plant and animal cells and their components, including the chromosomes and their role in heredity, with training in the preparation of materials for study. Prerequisite: one year of college work in biology, botany, or zoology. Material fee, \$6 a term. Lecture (1 hour); laboratory (4 hours)—evening. (Also offered 1949 summer term—Biology 115 (3).)

Biology 115x—same as Biology 115, but offered winter term. Evening.

Biology 116x—same as Biology 116, but offered fall term. Evening.

127-28 *Genetics* (3-3)

Cook

A lecture course in which the general principles are illustrated with specific examples of inheritance in plants and animals, including man. Prerequisite: one year of college work in biology, botany, or zoology. Evening. (Also offered 1949 summer term—Biology 127 (3).)

* See also departments of Botany and Zoology, pages 168-69, 311-13.

139 *Cell Physiology* (3)

Yocum

The fundamental physiology of protoplasm. Prerequisite: Chemistry 12 and one year of college biology, botany, or zoology. Offered 1950-51 and alternate years. Morning.

199-200 *Proseminar in Biology* (3-3)

Bowman

Individually planned and directed study by means of which majors in biology may correlate and supplement the subject matter presented in various regular courses. Time to be arranged.

THIRD GROUP

201-2 *Seminar: Cytology* (3-3)

Bowman

Time to be arranged.

211-12 *Research in Cytology*

Bowman

Time and credits to be arranged. (Also offered 1949 summer term—Biology 211.)

299-300 *Thesis* (3-3)

Bowman

BOTANY *

Lawson Edwin Yocum, Ph.D., *Professor of Botany, Executive Officer*
 William Webster Diehl, Ph.D., *Adjunct Professor of Mycology*
 Lyman Bradford Smith, Ph.D., *Professorial Lecturer on Taxonomy*
 June Cooper Reynolds, A.M., *Associate in Botany*
 Caroline Lander Adams, Ph.D., *Associate in Botany*

Minimum requirements for the major in Botany (Departmental).—Twenty-four credit hours of botany beyond the introductory courses, with collaterals as recommended in conference.

FIRST GROUP

1 *Structure and Functions of the Flowering Plant*† (3) Yocum

The typical plant as a working mechanism, with the emphasis on the general biological significance of plant physiology. Material fee, \$4.50. Lecture (2 hours); laboratory (2 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Botany 1x—same as Botany 1, but offered winter term. Morning and afternoon sections.

2 *Survey of the Plant Kingdom* (3) Yocum

Study of the different kinds of plants, with emphasis on the evolution of the plant kingdom; practice in identifying flowering plants. Material fee, \$4.50. Lecture (2 hours); laboratory (2 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

105 *Field Botany* (3)

Field trips to neighboring localities of botanical interest, with classroom study. Prerequisite: Botany 1 and 2 or Biology 1-2. Lecture (2 hours); laboratory (4 hours); field trips (3 hours). Summer term 1949.

109 *Plant Morphology* (3)

Adams

Survey of structure of root, stem, leaf, and flower of seed plants; followed by the application to several of the economically important families. Prerequisite: Botany 1 and 2 or Biology 1-2. Lecture (2 hours); laboratory (2 hours). 1950-51 and alternate years, morning.

116 *Plant Growth* (3)

Yocum

The functions of plants with special emphasis on the practical problems of growing and of caring for plants. Prerequisite: Botany 1 and 2 or Biology 1-2. Lecture (2 hours); laboratory (2 hours). 1950-51 and alternate years, morning.

* See also the departments of Biology and Zoology, pages 166-67, 311-12.

† Before completing registration for Botany 1, each student must obtain from the representative of the Department an assignment to a laboratory section.

125-26 *Plant Taxonomy* (3-3)

Smith

A study of the characteristics, phylogeny, and economics of selected families of the flowering plants. Field collection and identification. Prerequisite: Botany 1 and 2 or Biology 1-2. Material fee, \$4.50. Lecture (1 hour); laboratory and field (4 hours). 1949-50 and alternate years. Evening.

131-32 *Mycology* (3-3)

Diehl

Lecture (1 hour); laboratory (4 hours). 1950-51 and alternate years, evening.

133-34 *Plant Pathology* (3-3)

Diehl

Material fee, \$6 a term. 1949-50 and alternate years, evening.

135-36 *Plant Physiology* (3-3)

Yocum

Fall term: mineral and water relations of plants; winter term: organic syntheses and growth. Prerequisite: Chemistry 11-12. Material fee, \$6 a term. 1949-50 and alternate years, evening.

141-42 *Plant Ecology* (3-3)

Lecture (2 hours); laboratory (2 hours). 1950-51 and alternate years, evening.

143 *Plant Distribution* (3)

Plant distribution, especially in the United States and Canada; biological relationships of eastern America with eastern Asia and of lands in the Southern Hemisphere, and their bearing on biological and geological history. 1950-51 and alternate years, evening.

144 *Vegetation of the United States* (3)

Seminar on the areas and characteristics of the principal types of vegetation in the United States. 1950-51 and alternate years, evening.

THIRD GROUP

221-22 *Seminar: Taxonomy* (3-3)

(Not offered in 1949-50.)

Smith

235-36 *Seminar: Physiology* (3-3)

1949-50 and alternate years. Time to be arranged.

Yocum

241-42 *Seminar: Ecology* (3-3)

(Not offered in 1949-50.)

295-96 *Research*

Time and credits to be arranged. (Also offered 1949 summer term.)

The Staff

299-300 *Thesis* (3-3)

The Staff

BUSINESS ADMINISTRATION

Richard Norman Owens, Ph.D., C.P.A., *Professor of Accounting and Business Administration*

Harold Griffith Sutton, M.S., *Professor of Finance*

Ralph Dale Kennedy, Ph.D., *Professor of Accounting and Business Administration, Executive Officer*

Orton Wells Boyd, A.M., C.P.A., *Professorial Lecturer on Accounting*

Arlin Rex Johnson, Ph.D., *Professorial Lecturer on Marketing*

James Carlton Dockeray, Ph.D., *Professorial Lecturer in Business Administration*

Montell Ernest Ogdon, Ph.D., *Professorial Lecturer in Business Administration*

Joe Lee Jessup, M.B.A., *Professorial Lecturer in Business Administration*

Harold Kelso, Ph.D., *Professorial Lecturer in Business Administration*
, Assistant Professor of Accounting

Edwin Lewis, M.B.A., *Lecturer on Accounting*

Frank Robert Byrne, M.B.A., LL.M., C.P.A., *Lecturer on Accounting*

James Leonard Buckler, A.B., *Lecturer on Accounting*

Forest Carlile Brimacombe, A.M., *Lecturer on Accounting*

Ira Ernest Steele, B.B.A., *Lecturer on Accounting*

William McPheeters Jones, B.S., *Lecturer on Accounting*

Minimum requirements for the major in Accounting.—See pages 141-42, 143.

Minimum requirements for the major in Business Administration.—See pages 141-42, 143-44.

FIRST GROUP

51-52 *Introductory Accounting* (3-3) Kennedy and Staff

Rules of debit and credit, underlying principles of accounting records, simple partnership and corporation problems, and the preparation of financial statements. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Business Administration 51x—same as Business Administration 51, but offered winter term. Morning and evening sections.

Business Administration 52x—same as Business Administration 52, but offered fall term. Prerequisite: Business Administration 51, or the approval of the instructor. Morning and evening sections.

SECOND GROUP

101 *Business Organization and Combination* (3) Owens

Simple and interrelated forms of business enterprise and their control by government. Morning. (Also offered 1949 summer term.)

Business Administration 101x—same as Business Administration 101, but offered winter term. Evening.

- 102 **Business Management (3)** Owens
Organization and management of a business. Morning.
Business Administration 102x—same as Business Administration 102, but offered fall term. Evening.
- 107 **Government and Business (3)**
Selected laws and court cases governing unfair trade practices, monopoly, security issues and security exchanges, labor disputes, and price control. Afternoon.
- 112 **Personnel Management in Industry (3)** Owens
Survey of labor policies and methods of business enterprises. Afternoon and evening sections. (Also offered 1949 summer term.)
Business Administration 112x—same as Business Administration 112, but offered fall term. Afternoon and evening sections.
- 115 **Business Finance (3)** _____, Steele
Basic principles involved in the financing of business enterprises. Prerequisite: Business Administration 51-52; Economics 1-2. Morning and evening sections. (Also offered 1949 summer term.)
Business Administration 115x—same as Business Administration 115, but offered winter term. Evening.
- 116 **Commercial Credit (3)** Brimacombe
Types and sources of credit information; credit relationships from the standpoint of (1) the commercial bank and (2) the commercial business enterprise. Prerequisite: Business Administration 51-52. Evening.
- 118 **Investments (3)** Dockeray, _____
Analysis of factors of investment credit with application to different types of investments; proper selection of investments for various classes of investors; regulation. Prerequisite: Business Administration 51-52. Evening.
Business Administration 118x—same as Business Administration 118, but offered fall term. Morning.
- 119 **Real Estate (3)** Dockeray
Fundamentals of real estate practice; leasing and property management; valuation, financing, and taxation. Evening.
- 128 **Insurance (3)** _____
A general course in underlying principles of property, life, marine, and casualty insurance, and the function of insurance in the economic life of a business or individual. Prerequisite: Economics 1-2. Morning. (Also offered 1949 summer term.)
Business Administration 128x—same as Business Administration 128, but offered fall term. Evening.
- 131 **Governmental Budgeting (3)** Buckler
Policies, practices, and procedures relating to the formulation and execution of the federal budget. Evening.
- 132 **Business Budgeting (3)** _____
The preparation and utilization of budgets as an aid to management. Prerequisite: Business Administration 51-52. Morning.
Business Administration 132x—same as Business Administration 132, but offered fall term. Evening.

- 136 Business Problems (3)**
Survey of business forecasting, purchasing, and other current problems of business. Prerequisite: Business Administration 51-52; Economics 1-2. Morning. (Also offered 1949 summer term.)
- 145 Cost Accounting (3)** Owens, Byrne
Job order and process systems of cost findings, interrelation of the cost records and the general accounts, standard costs, distribution costs, Prerequisite: Business Administration 51-52. Morning. (Also offered 1949 summer term.)
Business Administration 145x—same as Business Administration 145, but offered winter term. Evening.
- 151-52 Intermediate Accounting (3-3)** The Staff
Partnerships, corporations, funds, reserves, depreciation, and valuation. Prerequisite: Business Administration 51-52. Morning and evening sections. (Also offered 1949 summer term.)
- 153 Advanced Accounting (3)** Lewis, Jones
Consolidated statements, liquidations and receiverships. Prerequisite: Business Administration 151-52. Morning and evening sections. (Also offered 1949 summer term.)
- 154 Professional Accounting Review (3)** Lewis, Jones
Review and coordination at a professional level of the principles and techniques developed in the accounting curriculum. Prerequisites: Business Administration, 145, 153, 157, 165, and 132 or 160. Morning and evening sections.
- 155 Analysis of Financial Statements (3)** Kennedy, Steele
Technique of analyzing financial statements for the guidance of operating executives, directors, stockholders, and creditors; valuation of balance sheet items; determination and interpretation of ratios. Prerequisite: Business Administration 51-52. Morning. (Also offered 1949 summer term.)
Business Administration 155x—same as Business Administration 155, but offered winter term. Evening.
- 157 Federal Taxation (3)** Boyd, Jones
Tax problems which confront business enterprise: income, capital stock, pay roll, and excise taxes. Prerequisite: Business Administration 51-52. Morning and evening sections. (Also offered 1949 summer term.)
- 158 Federal Taxation Problems (3)** Boyd, Jones
Contemporary tax problems; preparation of income tax returns and of briefs for filing with United States Treasury Department. Prerequisite: Business Administration 157. Morning and evening sections.
- 160 Federal Accounting (3)** Lewis
Accounting problems of federal government. Appropriation accounts, encumbrances, fund accounting. Prerequisite: Business Administration 51-52. Evening.

- 165 *Auditing* (3) Owens, Byrne
Duties and responsibilities of the auditor, principles and procedures in making audits, arrangement of working papers and the preparation of reports. Prerequisite: Business Administration 151-52. Evening. (Also offered 1949 summer term.)
Business Administration 165x—same as Business Administration 165, but offered winter term. Morning.
- 168 *Sales Management* (3)
Organization of the sales department, sales planning and forecasting, quotas, territories, performance standards, and analysis and control of distribution costs. Morning. (Also offered 1949 summer term.)
- 169 *Advertising* (3)
Advertising as a function of marketing and merchandising; evaluation, purchase, criticism, and control of advertising; uses and limitations of advertising as a tool of management. Evening. (Also offered 1949 summer term.)
- 171 *Marketing* (3) Johnson
A survey of marketing, giving particular attention to consumption, retailing, wholesaling, and sales management; the entire marketing structure and its relation to the total economy. Prerequisite: Economics 1-2. Morning. (Also offered 1949 summer term.)
Business Administration 171x—same as Business Administration 171, but offered winter term. Evening.
- 172 *Marketing Problems* (3) Johnson
Marketing principles applied to specific distribution policy and operating problems of retailers, wholesalers, and manufacturers handling consumers' and industrial goods. Prerequisite: Business Administration 171. Morning.
- 173x *Cooperative Marketing* (3) Johnson
Study of cooperatives with respect to principles and objectives, history and theory, legal and financial structure, sales methods and policies, administrative policies and procedures, and public policy. Prerequisite: Economics 1-2. Evening.
- 175 *Introduction to Foreign Trade* (3) Ogdon
Terminology, trade usages and practices, conditions essential to successful trading, economic bases of international trade, obstacles to trade, tariffs, impact of governmental controls on private trade. Prerequisite: Economics 1-2. Evening.
- 176 *Exporting and Importing* (3) Ogdon
Policy and operating questions of foreign trade, financing and documentation of shipments. Prerequisite: Business Administration 175. Evening.
- 178 *Foreign Markets* (3) Ogdon
Pattern of world trade by countries and commodities, methods of preparing market surveys, selected regional market analyses. Prerequisite: Economics 1-2. Evening.

- 182 *Public Utilities* (3) Kennedy
Public utility characteristics, organization, management, financing, combinations, and accounting; regulation, valuation, and rate-making are stressed. Prerequisite: Economics 1-2. Morning.
- 185 *Railroad Transportation* (3) Kennedy
Railroad history, organization, regulations, rate-making theory and practice, accounting, securities, and consolidation. Work of Interstate Commerce Commission stressed. Prerequisite: Economics 1-2. Morning.
- 186 *Motor, Air, and Water Transportation* (3) Kennedy
History, organization, economics, regulations, and rates of motor, air, and water carriers; coordination of transportation. Prerequisite: Economics 1-2. Morning.
Business Administration 186x—same as Business Administration 186, but offered fall term. Evening.
- 188 *Urban Transportation* (3) Kelso
Local transportation in urban economic development; regulation, finance, operation, and management of transit services; community planning for streets, highways, parking, and traffic control. Evening.
- 191 *Problems in Retailing* (3) Johnson
Principles and problems in retail merchandising, including markup, inventory valuation, and expense control; service and personnel problems. Evening.
- 193 *Accounting Systems* (3) Lewis
Theory and procedure of designing and installing accounting systems for collecting, recording, analyzing, and presenting accounting data. Prerequisite: Business Administration 145 and 151-52. Evening.
- 199 *Controllership* (3)
The duties, responsibilities, and place of the controller in a business organization; relations of controller to other departments and regulatory bodies; and the controller's relation to price setting and inventories, depreciation policies, internal auditing, expense control and budgeting, and financial reports to management, stockholders, and employees. Prerequisite: Business Administration 51-52. Morning.

THIRD GROUP

- 215 *Corporation Financial Problems* (3) Kennedy
Financial practice in promotion, consolidations and mergers, capital structure adjustments, and reorganizations. Evening. (Also offered 1949 summer term.)
- 216 *Seminar in Business Finance* (3) Kennedy
Evening.
- 251-52 *Seminar in Accounting* (3-3)
Evening.

- 260 *Advanced Federal Accounting* (3) Lewis
Advanced principles and practices in federal accounting relationship
to general policy and administration. Evening.
- 281-82 *Business Policy* (3-3) Jessup
Evening.
- 291-92 *Seminar in Business Administration* (3-3) Kennedy
Evening. (Also offered 1949 summer term—Business Administration
291 (3).)
- 299-300 *Thesis* (3-3) The Staff

CHEMISTRY

Colin Mackenzie Mackall, Ph.D., *Professor of Chemistry*
Benjamin Douglass Van Evera, Ph.D., *Professor of Chemistry*
Samuel Nathaniel Wrenn, Ph.D., *Professor of Chemistry*
Charles Rudolph Naeser, Ph.D., *Professor of Chemistry, Executive Officer*

Stephen Brunauer, Ph.D., *Professorial Lecturer in Chemistry*
William Bultman Holton, Ph.D., *Professorial Lecturer in Chemistry*
Robert Corbin Vincent, Ph.D., *Associate Professor of Chemistry*
Reuben Esselstyn Wood, Ph.D., *Assistant Professor of Chemistry*
William Frederick Sager, Ph.D., *Assistant Professor of Chemistry*
Daniel Remsen Norton, Ph.D., *Assistant Professor of Chemistry*
James Willard Harkness, B.S., Ed.M., *Assistant Professor of Chemistry*
John Farago, Ph.D., *Lecturer in Chemistry*
Theodore Peter Perros, B.S., *Instructor in Chemistry*

The Major in Chemistry (Departmental).—Prerequisite: Chemistry 11-12, 21 and 22; Mathematics 19 and 20; Physics 5, 6, 7, and 8. Required: Chemistry 11-12, 122, 151-52, and 135 or 155 (two credit hours). The work of the junior and senior years must be approved by the Department. The German language is strongly recommended for all majors, and is essential for all students doing graduate work.

Requirements for the Master's degree.—In addition to the requirements for the Bachelor's degree: Chemistry 131-32, 193, 211-12, 251-52, 299-300, and the program must include at least four credit hours of laboratory courses. A reading knowledge examination in French or German (German preferred) must be passed before the second half of the work is started.

Registration.—Before completing registration each student must obtain from the representative of the Department an assignment to lecture, recitation, and laboratory sections.

FIRST GROUP

†II-12 *General Chemistry*
(4-4)

Van Evera, Nacser, Harkness

Chemistry 11-12 is an elementary course in General Chemistry. Prerequisite: one year of high school algebra. Laboratory fee, \$12 a term. Lecture (2 hours); laboratory (4 hours); recitation (1 hour)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Chemistry 11x—same as Chemistry 11, but offered winter term.
Morning, afternoon, and evening sections.

Chemistry 12x—same as Chemistry 12, but offered fall term. Afternoon and evening sections.

- 21 *Qualitative Inorganic Analysis* (4) Vincent
Theoretical and practical study of methods of separating and identifying the more common cations and anions using semi-micro techniques. Prerequisite: Chemistry 12. Laboratory fee, \$12. Lecture (2 hours); laboratory (6 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)
Chemistry 21x—same as Chemistry 21 but offered winter term. Lecture—afternoon and evening sections; laboratory—morning, afternoon, and evening sections.
- 22 *Quantitative Inorganic Analysis I* (4) Norton
Theory and practice of quantitative analysis by typical volumetric and gravimetric procedures. Prerequisite: Chemistry 21. Laboratory fee, \$15. Lecture (2 hours)—morning and evening sections; laboratory (6 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

- †111-12 *Physical Chemistry* (5-5) Wood
Introduction to physical chemistry. Prerequisite: Chemistry 22 and 152; Mathematics 20; Physics 8. Laboratory fee, \$12 a term. Lecture (3 hours)—morning, and evening sections; laboratory (6 hours)—afternoon, evening, and Saturday sections.
- 122x *Quantitative Inorganic Analysis II* (4) Norton
A continuation of Chemistry 22 including the theory and practice of organic reagents, electrochemistry, and colorimetry in the analysis of more complex materials. Prerequisite: Chemistry 22. Laboratory fee, \$15. Lecture (2 hours)—morning and evening sections; laboratory (6 hours)—morning, afternoon, and evening sections.
- †131-32 *Inorganic Chemistry* (2-2) Naeser
Application of modern chemical theories to inorganic substances and reactions; detailed study, developed from the periodic table, of the descriptive chemistry of the more common elements. Prerequisite: Chemistry 152. Prerequisite or concurrent registration: Chemistry 111-12. 1949-50 and alternate years, evening; 1950-51 and alternate years, morning.
- 135-36 *Inorganic Chemistry: Preparations* (2-2) Naeser
Application of the technique of inorganic chemistry to the preparation and purification of a list of selected substances. Prerequisite: Chemistry 152. Prerequisite or concurrent registration: Chemistry 111-12. Laboratory fee, \$14 a term. Laboratory (6 hours), evening. (Also offered 1949 summer term.)
Chemistry 135x—same as Chemistry 135, but offered winter term.
- †151-52 *Organic Chemistry* (4-4) Mackall, Sager
Chemistry of the compounds of carbon. Credit is not given for Chemistry 151 until Chemistry 152 is completed. Prerequisite: Chemistry 21. Chemistry 151.—Laboratory fee, \$6. Lecture (3 hours)—morning and evening sections; laboratory (3 hours)—morning, afternoon, and evening sections. Chemistry 152.—Laboratory

fee, \$12. Lecture (2 hours)—morning and evening sections; laboratory (6 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

- 155 *Organic Chemistry: Preparations* (2 or 3) Wrenn
The synthesis of organic compounds and the application of the technique of organic chemistry to the preparation of pure compounds, using larger amounts and greater refinements than in Chemistry 151-52. Prerequisite: Chemistry 22 and 152. Laboratory fee, \$8 a credit hour. Time to be arranged. (Also offered 1949 summer term.)

Chemistry 155x—same as Chemistry 155, but offered winter term.

- 156 *Qualitative Organic Analysis* (2) Mackall
The identification of pure organic compounds, the separation of mixtures, and the identification of their components. Prerequisite: Chemistry 22 and 155. Laboratory fee, \$15. Laboratory (6 hours). Time to be arranged.

- 191 *History of Chemistry* (2) Mackall
The development of chemistry, and the biographies of eminent contributors to the science. Prerequisite: Chemistry 22 and 152. Saturday morning.

- 193 *Chemical Literature* (1) Wrenn
A general course in chemical literature with reference work and reports. Prerequisite: Chemistry 22 and 152; prerequisite or concurrent registration: Chemistry 111-12. Evening.
Chemistry 193x—same as Chemistry 193, but offered winter term. Morning.

THIRD GROUP

- 203 *Chemical Kinetics* (2) Wood
The rates of chemical reaction and the factors influencing them. Prerequisite: Chemistry 112. Evening.

- 204 *Catalysis* (2) Brunauer
Prerequisite: Chemistry 203. Evening.

- 211-12 *Advanced Physical Chemistry* (2-2) Van Evera
Development and application of the principles of thermodynamics and the kinetic theory to chemical problems. Prerequisite: Chemistry 112. 1949-50 and alternate years, evening; 1950-51 and alternate years, morning.

- 216 *Statistical Mechanics* (3) Sager
An introduction to classical and quantum statistics designed to acquaint the student with the basic principles and application of the method. Prerequisite or concurrent registration: Chemistry 212, or permission of instructor. Evening.

- 221 *Advanced Analytical Chemistry* (3) Norton
A general survey of the theory and practice of analytical chemistry. This course will include a study of selected gravimetric and volumetric procedures, the determination of the less familiar elements, the analysis of steel, the ultimate analysis of organic compounds, and gas analysis. Prerequisite: Chemistry 22 and 122. Laboratory fee, \$8. Lecture (2 hours)—1949-50 and alternate years, morning; 1950-51 and alternate years, evening. Laboratory (3 hours)—time to be arranged.
- 222 *Advanced Analytical Chemistry and Instrumental Analysis* (3) Norton
A theoretical and practical study of physico-chemical methods of analysis, including the following: spectrophotometry, spectrography, mass spectrometry, X-ray crystallography, radio chemistry, electro-metric titrations, and polarography. Prerequisite: Chemistry 22 and 122. Laboratory fee, \$8. Lecture (2 hours)—1949-50 and alternate years, morning; 1950-51 and alternate years, evening. Laboratory (3 hours)—time to be arranged.
- 226 *Quantitative Organic Analysis* (3) Vincent
Micro and semi-micro procedures. Prerequisite: Chemistry 122 and 152; permission of the instructor. Laboratory fee, \$12. Time to be arranged.
- †231-32 *Advanced Inorganic Chemistry* (2-2) Holton
The chemistry of the less familiar elements. Prerequisite: Chemistry 132 and 152. Evening.
- 233-34 *Radiochemistry* (2-2) Holton
The preparation, properties, and uses of radioactive isotopes, both natural and artificial. Prerequisite: Chemistry 111-12 and 131-32. Offered in 1950-51, evening.
- 251-52 *Advanced Organic Chemistry* (3-3) Wrenn
The syntheses, reactions, and properties of carbon compounds; the fundamental theories of organic chemistry. Prerequisite: Chemistry 152; prerequisite or concurrent registration: Chemistry 111-12 and 193. 1949-50 and alternate years, morning. 1950-51 and alternate years, evening.
- 253 *Advanced Synthetic Organic Chemistry* (3) Wrenn
A critical study of the reactions employed in the synthesis of organic compounds. Prerequisite: Chemistry 251. Time to be arranged.
- 254 *Stereochemistry* (2) Mackall
The stereochemistry of organic compounds. Prerequisite: Chemistry 252. Evening.
- 257 *Theoretical Organic Chemistry* (3) Sager
Prerequisite: Chemistry 252. A survey of modern theories of organic chemistry with emphasis on reaction mechanisms. Evening.
- 258 *The Steroids* (2) Farago
The chemistry of vitamins and hormones. Prerequisite: Chemistry 251-52. Offered in 1950-51.

**291-92 Seminar: Recent Developments in
Chemistry (1-1)****The Staff**

Individual investigations of special problems. All students registered for a Master's degree in chemistry are expected to attend this seminar during residence for the degree, and to take part in its programs. Credit for participation in the seminar work may be obtained by registering for this course during the last two terms of residence; this credit, however, is based upon the seminar work during the entire period of residence. Alternate weeks, evening.

295-96 Research**The Staff**

Research on problems approved by the staff. Open to qualified students with advanced training. Laboratory fee, \$6 a credit hour. Time and credits to be arranged. (Also offered 1949 summer term.)

299-300 Thesis (3-3)**The Staff**

Laboratory fee, \$15 a term. Time to be arranged. (Also offered 1949 summer term.)

CIVIL ENGINEERING

- Carl Hugo Walther, B.E., M.C.E., *Professor of Civil Engineering*
 Bruce Douglas Greenshields, C.E., Ph.D., *Professor of Civil Engineering, Executive Officer*
 Waldo Edward Smith, B.E., M.S. in C.E., *Professorial Lecturer in Civil Engineering*
 Raymond Pugh Eyman, C.E., *Associate Professor of Civil Engineering*
 James Joseph Kerley, Jr., A.B. in C.E., *Assistant Professor of Civil Engineering*
 Haaren Albert Miklofsky, B.C.E., M.Eng., *Assistant Professor of Civil Engineering*
 Edgar Stover Walker, B.S. in C.E., *Lecturer in Civil Engineering*
 George Francis Strollo, B.S. in C.E., M.C.E., *Lecturer in Civil Engineering*
 Ralph Edward Fuhrman, B.S. in C.E., M.S., *Lecturer in Civil Engineering*
 Moses Freedman, B.S. in Eng., *Lecturer in Civil Engineering*
 William Gammon Hayward, B.S. in C.E., *Lecturer in Civil Engineering*
 Alvin Raymond Schwab, B.S., M.S. in Eng., *Lecturer in Civil Engineering*
 Asriel Taragin, B.E., *Lecturer in Civil Engineering*
 David Carl Colony, Jr., B.C.E., *Lecturer in Civil Engineering*
 Frank Spaulding Borden, B.C.E., *Lecturer in Civil Engineering*
 Mark Kiley, A.M. in Eng., *Instructor in Civil Engineering*

Minimum requirements for the major.—See pages 111–13.

FIRST GROUP

- 2 *Plane Surveying* (3) Eyman and Staff
 Principles, methods, and instruments used in surveying; with field work. Prerequisite: Trigonometry. Surveying fee, \$8. Lecture (2 hours)—morning, afternoon, and evening sections; field work (3 hours)—morning and afternoon sections. (Also offered 1949 summer term.)
- 15 *Navigation* (3) Eyman
 Principles, methods, and instruments used in surface and aerial navigation. Charts, piloting, dead-reckoning, nautical astronomy, position determination. Prerequisite: Trigonometry. (Not offered in 1949–50.)
- 21 *Analytical Mechanics:* Greenshields and Staff
Statics (2)
 Composition and resolution of forces; axial stresses; centroids; friction. Prerequisite: Physics 6; prerequisite or concurrent registration: Mathematics 20. Morning and evening sections. (Also offered 1949 summer term.)

22 *Analytical Mechanics: Dynamics (3)* Greenshields and Staff

Kinematics of a particle; kinetics of a body in translation, rotation, and plane motion; work and energy; impulse and momentum; simple vibrations. Prerequisite: Civil Engineering 21. Morning and evening sections. (Also offered 1949 summer term.)

23 *Higher Surveying (4)* Eyman, Walker

Elements of geodesy, triangulation, topography, hydrography, and precise and trigonometric leveling, with field work. Prerequisite: Civil Engineering 2. Surveying fee, \$8. Lecture (3 hours)—morning and evening sections; field work (3 hours)—afternoon and Saturday morning sections.

25-26 *Engineering Materials (2-2)* The Staff

Emphasis on properties and uses of nonmetallic materials such as cements, fuels, and plastics; and metallic materials including steel, copper, aluminum, and alloys. Prerequisite or concurrent registration: Chemistry 12. Morning and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

123 *Strength of Materials (3)* Kerley, Smith

Tension, compression, shear, flexure, and torsion; deflection; combined and working stresses. Prerequisite: Civil Engineering 22. Morning and evening sections. (Also offered 1949 summer term.)

136 *Hydraulics (3)* Kerley, Smith

Hydrostatics: flow through pipes and open channels; laminar and turbulent flow. Prerequisite: Civil Engineering 22. Morning and evening sections. (Also offered 1949 summer term.)

140 *Materials and Hydraulics Laboratory (2)* Kerley

Determination of the properties of materials by mechanical tests, and a study of the flow of fluids. Prerequisite: Civil Engineering 123; prerequisite or concurrent registration: Civil Engineering 26 and 136. Laboratory fee, \$6. Laboratory (3 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

Civil Engineering 140x—same as Civil Engineering 140, but offered fall term. Afternoon and evening sections.

141 *Graphic Statics (3)* Miklofsky, Schwab

Fundamental principles; analyses of beams; determination of stresses in roof trusses and framed bents. Prerequisite or concurrent registration: Civil Engineering 123. Drafting-room fee, \$1. Lecture (2 hours)—morning and evening sections; drafting room (3 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

142 *Bridge Stresses (3)* Miklofsky, Schwab

Determination of stresses in modern types of bridge trusses. Prerequisite: Civil Engineering 141. Drafting-room fee, \$1. Lecture (2 hours)—morning and evening sections; drafting room (3 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

- 147-48 *Structural Design (2-2)* Walther
Computations and drawings for the design of steel structures. Prerequisite: Civil Engineering 142. Drafting-room fee, \$3 a term. Drafting room (6 hours)—afternoon and evening sections.
- 149-50 *Concrete and Masonry Construction (3-3)* Miklofsky, Strollo
Plain concrete, general properties and theory of reinforced concrete, foundations, and retaining walls. Prerequisite: Civil Engineering 25 and 123. Civil Engineering 149, laboratory fee, \$6; Civil Engineering 150, drafting-room fee, \$1. Lecture (2 hours)—morning and evening sections; laboratory (3 hours)—afternoon and evening sections.
- 151-52 *Statically Indeterminate Structures (2-2)* Walther, Miklofsky
A study of such structures as continuous spans, rigid frames, and arches by methods of work, slope deflection, and moment distribution. Prerequisite: Civil Engineering 142. Morning and evening sections.
- 154 *Advanced Mechanics of Materials (3)*
Advanced topics in the mechanics of materials. Stresses at a point, thick cylinders, general bending, torsion, localized stress, and stress concentration. Prerequisite: Civil Engineering 25-26 and 123. (Not offered in 1949-50.)
- 164 *Highway Engineering (3)* Greenshields, Taragin
Highway economics, location, construction, and maintenance. Prerequisite: Civil Engineering 25 and 171. Morning and evening sections.
- 171 *Route Surveying (3)* Eyman, Hayward
Curves and earthwork, and methods of location as used on railroads and highways; field work; complete highway location. Prerequisite: Civil Engineering 2. Surveying fee, \$8. Lecture (2 hours)—morning and evening sections; field work (3 hours)—afternoon and Saturday morning sections.
- 181-82 *Water Supply and Sewerage (3-3)* Fuhrman
Collection, storage, purification, and distribution of water; sewerage systems and treatment of sewage. Prerequisite: Civil Engineering 136; Chemistry 12. Evening.
- 187-88 *Engineering Contracts and Specifications (2-2)* Freedman
Contract essentials, types, and legal principles; analysis and preparation of specifications. Prerequisite or concurrent registration: Civil Engineering 25-26. Evening.
- 189-90 *Civil Engineering Proseminar (1-1)* Greenshields, Eyman
Morning and afternoon sections.

CLASSICAL LANGUAGES AND LITERATURES

John Francis Latimer, Ph.D., *Associate Professor of Classical Languages and Literatures, Executive Officer*

Sylvia Gerber, A.M., *Associate in Classical Languages and Literatures*

FIRST GROUP

- †1-2 *First-year Latin (3-3)* Latimer
Essentials of Latin grammar, prose composition, easy reading selections. Morning.
- †3-4 *Second-year Latin (3-3)* Gerber
Rapid review of Latin grammar, prose composition, wide variety of rapid reading selections. Evening.
- †11-12 *First-year Greek (3-3)* Latimer
Essentials of Greek grammar, prose composition, easy reading selections. Evening.
- 71-72 *Greek and Roman Backgrounds in Literature (3-3)* Latimer
A survey in English translation of the principal Greek and Roman authors and their literary influence. Morning.

SECOND GROUP

- 101-2 *Homer's Odyssey (3-3)* Latimer
Prerequisite: Greek 11-12 or the equivalent. Evening.
- 109-10 *Survey of Roman Literature (3-3)* Latimer
Morning.
- 115 *Readings in Greek and Roman Philosophy (3)* Latimer
Extensive selections from the philosophical writings of the principal Greek and Roman authors from Plato to St. Augustine. Evening.
- 116 *Greek and Roman Backgrounds in Satire (3)* Latimer
A study of the satirical writings of Theophrastus, Horace, Juvenal, Persius, Martial, Petronius, Lucian, and their literary influence. Evening.

DERMATOLOGY AND SYPHILOLOGY

Harry Ford Anderson, M.D., *Professor of Dermatology and Syphilology,*
Executive Officer

George William Creswell, A.B., M.D., *Assistant Clinical Professor of*
Dermatology and Syphilology

Hayden Kirby-Smith, B.S., M.D., *Assistant Clinical Professor of Der-*
matology and Syphilology

Theodore Claremont Chen Fong, M.D., *Associate in Dermatology and*
Syphilology

James Quincy Gant, Jr., M.S., M.D., *Associate in Dermatology and*
Syphilology

Wendell Melvin Willett, M.D., *Clinical Instructor in Dermatology and*
Syphilology

313-14 *Dermatology and Syphilology*

Lectures on diseases of the skin and syphilis. One hour a week. The Staff

316 *Neurosyphilis*

Lectures, clinical demonstrations, and practical diagnostic and thera- Fong
peutic procedures. One hour a week for eight weeks.

317-18 *Clinic*

Case demonstrations, diagnosis, and treatment of skin diseases and The Staff
syphilis. Three hours a week. Gallinger Hospital.

407-8 *Clinic*

Dermatology and syphilology in infants and children. Childrens Hos- The Staff
pital. Two hours a week.

409-10 *Clinic*

Clinical demonstration, diseases of the skin. Two hours a week. The Staff
Emergency Hospital.

411-12 *Clinic*

Clinical demonstrations, diseases of the skin, and diagnosis and The Staff
therapy of syphilis. Two hours a week. University Hospital.

413-14 *Clinic*

Diagnosis, laboratory procedures, and treatment of syphilis. Two Creswell
hours a week. Southwest Health Center.

ECONOMICS

Arthur Edward Burns, Ph.D., *Professor of Economics*

Donald Stevenson Watson, Ph.D., *Professor of Economics, Executive Officer*

James Christopher Corliss, A.M., *Adjunct Professor of Inter-American Economics*

Gerhard Colm, Dr. rer. pol., *Professorial Lecturer in Economics*

Ralph Aubrey Young, M.B.A., Ph.D., *Professorial Lecturer in Economics*

Edward Campion Acheson, Ph.D., *Associate Professor of Finance*

Paul Edward Hanchett, Ph.D., *Assistant Professor of Economics*

Albert Raymond Miller, Jr., A.M., *Assistant Professor of Economics*

Edwin Medbery Fitch, Ph.D., *Lecturer in Economics*

Grover William Ensley, M.B.A., Ph.D., *Lecturer in Economics*

Margaret Marie Garritsen, Ph.D., *Lecturer in Economics*

George Jaszi, Ph.D., *Lecturer in Economics*

The major in Economics (Departmental).—Prerequisite: Economics 1-2. Required: (1) Economics 101 and three additional credit hours in economic theory (courses numbered 100-109); (2) six credit hours in each of three of the four following groups: finance (courses numbered 120-29), labor (courses numbered 140-49), government and economic policy (courses numbered 160-69), and international economics (courses numbered 180-92); (3) Statistics 111-12, and nine credit hours of other second-group courses selected from the following departments—Business Administration, History, Philosophy, Political Science, Sociology, and Statistics.

The major in Latin American Civilization and Culture (Field-of-Study).—The major, administered under the field-of-study plan, includes the political and social history, the economic development, the governmental structure and international relations, the principal literary works and writers, and a reasonable acquaintance with the spoken language of the Latin American republics. The Department of Economics provides a proseminar (Economics 193-94) intended to assist the student in preparing himself for the major examination. For further details, see the pamphlet, which is available in the Office of the Dean of Columbian College.

FIRST GROUP

1-2 *Introductory Economics** (3-3)

Survey of the major economic institutions and economic problems in contemporary society. Economics 1 is prerequisite to Economics 2. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Economics 1x—same as Economics 1, but offered winter term. Morning and evening sections.

Economics 2x—same as Economics 2, but offered fall term. Morning and evening sections.

* Economics 1-2 is prerequisite to all other courses in economics.

SECOND GROUP *

- 101 *Economic Theory* (3) The Staff
Introduction to formal economic theory; advanced analysis of demand, supply, and price relations. Morning and evening sections. (Also offered 1949 summer term.)

Economics 101x—same as Economics 101, but offered winter term. Morning and evening sections.

- 102 *History of Economic Thought* (3) Burns
Economic doctrines since the mercantilist writers; the history of the major schools of thought; influence of changing problems on theory. Morning. (Also offered 1949 summer term.)

- 105 *Business Cycles* (3) Burns, Miller
Analysis of strategic factors in economic instability and economic retardation; survey of recent business-cycle theories. Morning.
Economics 105x—same as Economics 105, but offered winter term. Evening.

- 108 *The National Income* (3) Miller
The measurement, composition, and determinants of the national income. Evening.

- 109 *Distribution Theory and Welfare Economics* (3) Miller
Advanced economic theory with emphasis on income distribution and the literature on welfare economics. Prerequisite: Economics 101 or the equivalent.
Summer term 1949.

- 121-22 *Money and Banking* (3-3) Acheson
Money, bank credit, and prices; commercial and investment banking; banking systems; historical development of banking; government and banking; functions of money and banking. Morning and evening sections. (Also offered 1949 summer term.)

- 123 *Monetary Theory* (3) Acheson
The development of monetary theory; principal contemporary approaches; theoretical background of recent monetary policy. Morning.

- 126 *Foreign Exchange and International Finance* (3) Acheson
Theory and practice of foreign exchanges; the gold standard and international finance during the nineteenth century; war and postwar exchange problems. Prerequisite: Economics 121-22. Morning.

- 141 *Labor Economics* (3) Miller
Labor problems: wages, hours, and working conditions; growth of labor organizations; types of unions; union tactics and programs. Morning and evening sections.

- 142 *Government and Labor Problems* (3) Miller
Labor legislation; labor and the courts; federal regulation of capital-labor relations; the work of federal labor boards. Morning and evening sections.

* Economics 1-2 is prerequisite to all other courses in economics.

- 144 *Labor Movements* (3) Survey of growth and types of labor unions, development and problems of collective bargaining. (Not offered in 1949-50.)
- 146 *Economic Security and Social Insurance* (3) Hanchett
Economic and social problems of unemployment; analysis of the federal social security program; survey of the Beveridge and other plans. Summer term 1949.
- 161-62 *Public Finance and Taxation* (3-3) Hanchett
General survey of government expenditures, sources and methods of taxation, economic effects of expenditures and taxes, and of government debt policies. Late afternoon. (Also offered 1949 summer term—Economics 161 (3).)
- 165 *Government Control of Economic Activity* (3) Watson
Changing role of government in promoting and regulating economic activity; types and spheres of control. Morning.
- 166 *Comparative Systems of Economic Reform* (3) Watson
Critical analysis of the major theories of economic and social reform, with special attention to their origins and backgrounds. Summer term 1949.
- 167 *Economics of Planning* (3) Watson
Analytical comparison of economic systems coordinated by market price with those coordinated by central authority. (Not offered in 1949-50.)
- 181-82 *International Economics* (3-3) Hanchett
Survey of world economics; basic factors; resource controls; international trade; industrial, financial, and monetary processes and policies; relation to internal economic systems. Afternoon and evening sections. (Also offered 1949 summer term.)
- 183 *Tariffs and Commercial Treaties* (3) Coogan
Origins and types of modern foreign commercial policy, in the light of evolving doctrines; forms and economic effects of tariffs and other measures, and of international commercial accords. Evening.
- 184 *The New Foreign Economic Policies* (3) Coogan
The new types of foreign trade and exchange controls and agreements; causes, growth, and techniques. Evening.
- 185-86 *Economic History and Problems of South America* (3-3) Corliss
Economic development of South America (excluding Colombia and Venezuela). Particular emphasis on economic developments and problems since the First World War. 1950-51 and alternate years, evening.
- 187-88 *Economic History and Problems of the Caribbean Area* (3-3) Corliss
Economic developments of Colombia, Venezuela, Mexico, and the Central American and West Indian republics. Particular emphasis on economic developments and problems since the First World War. 1949-50 and alternate years, evening.

193-94 *Proseminar in Latin American Civilization and Culture* (3-3) Corliss

Coordination and review course. Open only to candidates majoring in Latin American Civilization and Culture. Time to be arranged.

198 *Readings in Economics* (3) Burns, Watson

Comprehensive survey of economics. Open only to students whose major is economics and who are in their last term. Time to be arranged.

Economics 198x—same as Economics 198, but offered fall term. Time to be arranged.

THIRD GROUP

201-2 *History and Literature of Economic Thought* (3-3) Burns

Critical analysis and interpretation of the development and the literature of economic thought; origins and problems of the major types of theory; their relation to present problems and policies. Evening.

203 *Partial Equilibrium Theory* (3) Watson

The contributions of Marshall, Chamberlin, and Robinson. Evening.

204 *Contemporary Economic Theory* (3) Watson

Intensive analysis of Hicks' *Value and Capital*. Prerequisite: Economics 201-2. Evening.

205 *Business Cycle Theory* (3) Burns

The contributions of the pre-Keynesian writers. (Not offered in 1949-50.)

206x *Theory of Employment and Income* (3) Miller

Analysis of several types of current business-cycle theories; recent works of Keynes and others. Evening. (Also offered 1949 summer term.)

208 *The National Income* (3) Jaszi

The theory of economic aggregates; policy aspects of national income. Evening.

209 *Readings in the History of Economic Thought* (3) Burns

Research in special problems in the history of economics. Prerequisite: Economics 201-2. Evening.

210 *Methodology in Economics* (3) Burns

The nature of economic theory; relations of economics to philosophy and other disciplines. (Not offered in 1949-50.)

211 *Readings in Advanced Economics* (3) The Staff

Integration and coordination of advanced economic theories. Evening.

223 *Monetary Policy and Problems* (3) Young

The money system in its relation to national income and to the national debt. Policy issues. Evening.

- 224 *Central Banking* (3) Young
The Federal Reserve and other central banking systems. Evening.
- 225 *Economic Stabilization Policies* (3)
Appraisal of economic policies directed towards the stabilization of the economy, with special attention to the problem of full employment. (Not offered in 1949-50.)
- 241 *Labor Economics* (3) Fitch
Analysis of labor problems, with special reference to labor organizations; intensive study of federal regulation and participation in capital-labor relations. Evening.
- 244 *Labor Relations* (3) Fitch
The collective bargaining contract and the elements comprising it; analysis of the policies of labor and of management. Evening.
- 260 *Theory of Public Finance* (3) Hanchett
Survey of the literature on public finance, with special attention to controversial issues.
Summer term 1949.
- 261-62 *Public Finance and Fiscal Policy* (3-3) Colm
Survey of the major contributions to the theory and doctrines of public finance. Special problems: deficit financing; current tax problems; and federal, state, and local financial relationships. Evening.
- 265 *Theory of Economic Policy* (3) Ensley
The nature, forms, methods, and objectives of economic policy; the relation of economic theory to economic policy. Evening.
- 266 *Problems of Governmental Economic Policy* (3) Ensley
The execution of economic policies as they are affected by the processes of government. Evening.
- 281 *Theories of International Economics* (3) Garritsen
Examination and critique of mercantilism, classical international equilibrium analysis, and other schools of world economic thought. Evening.
- 282 *The Balance of International Payments* (3) Garritsen
Structure and theories of the balance; money and foreign exchange and interrelationships of trade, gold flows, capital movements, etc.; the balance and foreign economic policy formulation. Evening.
- 285-86 *Public and Private Finance in Latin America* (3-3) Corliss
Corporate finance, banking, and capital movements in Latin America; fiscal problems; public debt, deficit financing, taxation, public expenditures; foreign-exchange controls and problems. A reading knowledge of Spanish or Portuguese is required. Evening.
- 287-88 *Economic Problems of Latin America* (3-3) Corliss
Foreign trade and foreign commercial policy; growth of industry and agriculture; government control of economic activity; recent economic trends and problems. (Not offered in 1949-50.)

- 289 *Problems in International Financial Policy* Acheson
(3)

Analysis of the issues confronting the International Monetary Fund and the International Bank for Reconstruction and Development. Evening.

- 290 *Problems in International Economic Policy* Acheson
(3)

Exchange stabilization; issues confronting the International Trade Organization. Evening.

- 297-98 *Thesis* (School of Government majors) (3-3) The Staff

- 299-300 *Thesis* (3-3) The Staff

EDUCATION

James Harold Fox, A.M., Ed.D., *Professor of Education, Executive Officer*

Burnice Herman Jarman, A.M., Ed.D., *Professor of Education*

William Cullen French, Ph.D., *Professor Emeritus of Education*

Residence

Meredith Chester Wilson, B.S., *Adjunct Professor of Education*

Ruth Coyner Little, Ph.D., *Professorial Lecturer in Education*

Ray LaForest Hamon, Ph.D., *Professorial Lecturer in Education*

*Benjamin Franklin Kyker, A.M., *Professorial Lecturer in Education*

Charles Edward Bish, A.M., Ed.D., *Professorial Lecturer in Education*

Henry Fred Alves, A.M., *Professorial Lecturer in Education*

Frederick Barton Tuttle, Ph.D., *Professorial Lecturer in Education*

Robert Floyd Cromwell, Ed.D., *Professorial Lecturer in Education*

Robert Wendell Eaves, A.M., Ed.D., *Professorial Lecturer in Education*

Ivan Albert Booker, Ph.D., *Professorial Lecturer in Education*

Blake Smith Root, A.M., Ed.D., *Associate Professor of Education*

Ralph Windsor Ruffner, A.M., Ed.D., *Associate Professor of Education*

Jane Frost Hilder, A.M., *Lecturer in Education, Director of Reading Clinic*

Madaline Kinter Remmlein, Ph.D., J.D., *Lecturer in Education*

LuVerne Crabtree Walker, A.M., *Lecturer in Education*

*Helen Barton Goodwin, A.M., *Lecturer in Education*

Camilla Painter Luecke, A.M., *Lecturer in Education*

Florence Mary Lumsden, A.M., Ed.D., *Lecturer in Education*

William Samuel Rumbough, A.M., *Lecturer in Education*

Cannon Chiles Hearne, A.M., *Lecturer in Education*

Harold Maurice Wilson, A.M., *Lecturer in Education*

Juanita May Winn, A.M., *Lecturer in Education*

Joseph Bueol Johnson, A.M., Ed.D., *Lecturer in Education*

James Herrick Hall, A.M., *Lecturer in Education*

Marie Marguerite Neeb, A.M., *Clinician, Reading Clinic*

CONSULTANT IN RESEARCH

John Robert Ludington, Ph.D., *Specialist, Industrial Arts, Secondary Division, Office of Education*

Minimum requirements for the degrees.—See pages 130, 134-37.

* On leave of absence 1949-50.

SECOND GROUP

109-10 *Learning and Teaching (3-3)* Ruffner

For the general student as well as the prospective teacher. Fall term: nature of learning and teaching approached through the study of actual classroom situations. Winter term: the principles and practices of good teaching. Lecture (2 hours)—morning and evening sections; field work (2 hours)—to be arranged. (Also offered 1949 summer term—Hall.)

115 *Elementary School Classroom Procedures (3)*

Determination of children's needs and interests, providing for individual differences, evaluation of classroom practices. Summer term 1949 (Walker, Winn).

121-22 *Society and the School (3-3)* Jarman

For the general student as well as the prospective teacher. Fall term: the local, national, and international roles of education; cooperation of the school with other community agencies. Winter term: organization and operation of schools; principles and functions. Lecture (2 hours)—morning and evening sections; field work (2 hours)—to be arranged. (Also offered 1949 summer term.)

123-24 *Reading Problems (3-3)* Hilder

A clinical approach to reading difficulties on elementary and secondary school levels. Saturday morning.

125 *Corrective Procedures in Reading (3)* Hilder

Study of levels, needs, materials, and corrective methods. Demonstrations and observations with clinic cases. Summer term 1949.

131 *Common Teaching Skills (3)* Root

Course, unit, and lesson planning; homeroom procedures; discipline, clerical routines; activity sponsorship; committee procedures; public relations duties. Lecture (3 hours)—late afternoon.

133-34 *Observation and Practice Teaching (6)* Root

Education 134, practice-teaching fee, \$8 a credit hour. Admission by permission of the instructor. Time to be arranged individually.

SPECIAL METHODS COURSES

To be elected in the senior year after substantial preparation in the teaching fields concerned. Course requirements and hours of credit vary with license requirements. Practices of successful teachers are studied and actual teaching content as found in current texts and courses of study is reviewed.

136 *Teaching English (2 to 4)* Lumsden

Lecture (2 hours)—evening; field work (2 hours)—to be arranged.

138 *Teaching Social Studies (2 to 4)* Root

Lecture (2 hours)—evening; field work (2 hours)—to be arranged.

140 *Teaching Mathematics (2)* Weida

Time to be arranged.

- 141-42 *Teaching Art* (3-3) Goodwin
(Not offered in 1949-50.)
- 144 *Teaching Science* (2 to 4) Rumbough
Lecture (2 hours)—late afternoon; field work (2 hours)—to be arranged.
- 146 *Teaching Foreign Languages* (2 to 4) Doyle, Keating
Time to be arranged.
- 148 *Teaching Home Economics* (2) Kirkpatrick
Time to be arranged.
- 150 *Teaching Secretarial Studies* (2) Veon
Time to be arranged.

THIRD GROUP

- 205-06 *The Curriculum* (3-3)
General principles and practices of curricular development; modern trends and procedures of improvement; group consideration of student problems. Evening.
- 209-10 *Child Growth and Development* (3-3)
Basic factors in human growth and development and their relation to learning and teaching. Related practical experience in studying children; class analyses of procedures and results. Saturday morning.
- 211X *Evaluation in Education* (3) Ruffner
Nature, functions, and techniques. Evening. (Also offered 1949 summer term.)
- 213-14 *History of Education* (3-3) Jarman
Fall term: the European backgrounds of American education. Winter term: the evolution of the American school system. Evening.
- 215-16 *Seminar: Great Teachers in American Education* (3-3) French
A study of great teachers from the colonial period to the present. An attempt will be made to find out the qualities and characteristics that have made these teachers great. Evening.
- 217-18 *Contemporary Problems in Education* (3-3) Jarman
Fall term: designed to help students formulate a personal philosophy of education. Winter term: a study of the forces that shape the policies and offerings of the school. Evening. (Also offered 1949 summer term—Education 217 (3).)
- 219 *Elementary Education* (3) Eaves
Review of recent literature and practices; particular attention to *Education for All American Children*, the recent report of the Educational Policies Commission.
Summer term 1949.
- 221-22 *Seminar: Early Childhood Education* (3-3) Little
Fall term: home backgrounds, nursery school, and kindergarten situations. Winter term: primary grades. (Not offered in 1949-50.)

- 224 *Newer Developments in Children's Literature* Walker
(3)
Exploring and evaluating the newer books for children and the children's classics; understanding the contribution of literature in child development; appreciating children's original expressions; surveying resources in the field. (Not offered in 1949-50.)
- 225-26 *Seminar: Elementary Education in the Intermediate Grades* (3-3) Little
A comprehensive study of the major problems of the intermediate grades. Evening.
- 227-28 *Elementary Education* (3-3)
Fall term: discussion of fundamental issues in the light of their historical development, parallel situations in other countries, and current proposed solutions. Winter term: relationships of developments in each instructional area to the fundamental issues. Saturday morning.
- 230 *Administration of Elementary Education* (3)
The principal as a school and community leader. Problems of supervision, course of study development, parent relations. Evening. (Also offered 1949 summer term—Tuttle.)
- 231 *Secondary School Classroom Procedures* (3) Bish, Root
Survey of current classroom practices with particular attention to teaching aids; reviews of recent literature. Evening. (Also offered 1949 summer term.)
- 233 *Audio-visual Education* (3) Luecke
Selection and use of audio-visual aids; management of materials and equipment. Material fee, \$5. Lecture (2 hours), laboratory (2 hours)—Saturday morning. (Also offered 1949 summer term—Johnson.)
Education 233x—same as Education 233, but offered winter term. Saturday morning.
- 247-48 *Vocational Education* (3-3)
Major issues, problems, and trends. Evening.
- 251 *Guidance in Secondary Schools* (3) Cromwell
Scope; needs; organization of the program; services to students, the instructional staff, and the administration; personnel needed for the program. Evening. (Also offered 1949 summer term.)
- 254 *The Junior High School* (3) Bish, Root
Purposes; organization; core programs; guidance; developing courses of study; extra-classroom activities. Evening. (Also offered 1949 summer term.)
- 255-56 *Secondary Education* (3-3) Bish, Root
Fall term: review of recent literature and practices; particular attention to *Education for All American Youth*, the recent report of the Educational Policies Commission, and *General Education in a Free Society*, Harvard Committee. Winter term: current problems in each of the subject-matter fields. Saturday morning. (Also offered 1949 summer term.)

- 259-60 *Secondary School Management* (3-3) Fox
Management planning, execution, and control; criteria of good management; construction of the master schedule; leadership problems incident to the development of new policies and programs. Evening.
- 263-64 *Employee Training* (3-3) Root
Organization and administration of employee-training programs in accordance with operating needs; orientation, supervisory, and skills training; coordination of training with other personnel functions; evaluation of training. Field work is required. Evening.
- 271 *The American School System* (3) Fox
Organization of public education; sources of school revenue; influences of national and state agencies; local administrative units; the chief legal controls; criteria of building administration; responsibilities of teachers. Saturday morning. (Also offered 1949 summer term—Booker.)
- 272 *The Teacher and School Supervision* (3) Fox
Nature, organization, human relationships, and techniques. Evening. (Also offered 1949 summer term.)
- 273-74 *Administration of a School System* (3-3)
A comprehensive survey of the management problems of a beginning superintendent; does not anticipate previous experience as a superintendent. (Not offered in 1949-50.)
- 275 *School Finance* (3) Alves
Educational financial theory, practice, and control, including methods of financing. Evening.
- 276 *Seminar: Public Relations in School Administration* (3) Fox
Purposes; gathering materials; disseminating agencies; publicity media; public participation in policy-making. (Not offered in 1949-50.)
- 278 *School Law* (3) Remmlein
Sources and scope of school law; legal rights and responsibilities of teachers, pupils, and taxpayers. Other legal problems of major interest to the group. Evening.
- 279-80 *Adult Education* (3-3) Ruffner
Fall term: nature, extent, and organization of programs in adult education. Winter term: interest, needs, and capacities of adult learners; techniques employed in motivating and directing learning activities. Evening. (Also offered 1949 summer term—Education 280 (3).)
- 285 *Extra-classroom Activities* (3)
Home room functions; student self-government, clubs, assemblies, school publications.
Summer term 1949.
- 287-88 *Clinical Study of Reading Problems* (3-3) Hilder
For advanced students. Diagnostic work under supervision in the Reading Clinic. Admission by permission of the instructor. Saturday morning.

- 291 *Planning the School Plant* (3) Hamon
Selection of sites; evaluation of existing buildings; utilization of present facilities; adaptation to curricular needs; building, operation, and maintenance problems. Evening.
- 293-94 *Research* (3-3) The Staff
Individual research under the guidance of a member of the staff. Program and conferences arranged with an instructor.
- 295 *Educational Research Methods and Procedures* (3) Fox
Required of all Master of Arts candidates following Plan 2. Knowledge of elementary statistics required. Evening. (Also offered in 1949 summer term.)
Education 295x—same as Education 295, but offered winter term. Late afternoon.
- 297 *Reading in Education* (1) The Staff
To assist those preparing for the comprehensive examination. No credit toward degree requirements. Late afternoon.
Education 297x—same as Education 297, but offered winter term. Late afternoon.
- 299-300 *Thesis* (3-3) The Staff
Required of all Master of Arts candidates following Plan 1. Time to be arranged. (Also offered 1949 summer term.)

ELECTRICAL ENGINEERING

- Norman Bruce Ames, M.S., E.E., LL.B., *Professor of Electrical Engineering, Executive Officer*
 Forest Klaire Harris, Ph.D., *Professorial Lecturer in Electrical Engineering*
 Newbern Smith, M.S. in E.E., Ph.D., *Professorial Lecturer in Electrical Engineering*
 William Sutton Carley, M.S. in E.E., *Associate Professor of Electrical Engineering*
 William Dickinson, M.S. in E.E., *Assistant Professor of Electrical Engineering*
 Dwight Edward Shytle, *Lecturer in Electrical Engineering*
 Thomas Alvin O'Halloran, B.E.E., *Lecturer in Electrical Engineering*
 Malcolm Richardson Moore, B.E.E., *Lecturer in Electrical Engineering*
 Ralph Brady, B.S. in E.E., *Lecturer in Electrical Engineering*
 Jerome Addison Lee, B.S. in E.E., *Lecturer in Electrical Engineering*
 Jerome Strauss Antel, Jr., B.S. in E.E., *Instructor in Electrical Engineering*
 George Pida, B.E.E., *Associate in Electrical Engineering*
 Donald James Webb, B.E.E., *Associate in Electrical Engineering*

Minimum requirements for the major.—See pages 111-12, 113-15.

FIRST GROUP

- 9-10 *Elements of Electrical Engineering* (3-3) Ames, Lee
 Electrical Engineering 9: magnetic and electric circuits; direct-current instruments and machines; Electrical Engineering 10: alternating-current circuits, instruments, and machines. Prerequisite: Physics 7. Prerequisite or concurrent registration: Mathematics 20. Morning and evening sections. (Also offered 1949 summer term.)
- 13-14 *Electrical Laboratory* (2-2) The Staff
 For the student not majoring in electrical engineering. Experiments in direct- and alternating-current circuits, instruments and machinery. Prerequisite: Electrical Engineering 10. Laboratory fee, \$6 a term. Laboratory (3 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

- 105-6 *Direct-Current Laboratory* (2-2) The Staff
 For the student majoring in electrical engineering. A course in measurements and direct-current dynamo laboratory. Prerequisite: Electrical Engineering 9-10. Laboratory fee, \$6 a term. Laboratory (3 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

107 Alternating-Current Circuits (3) Dickinson
Alternating-current-circuit theory. Extensive consideration is given to harmonic analysis and to the study of harmonics in both single-phase and polyphase circuits. Prerequisite: Electrical Engineering 106. Morning and evening sections. (Also offered 1949 summer term.)

108 Alternating-Current Machinery (3) Antel
Synchronous generators and motors, transformers, and mercury arc rectifiers. Prerequisite: Electrical Engineering 107. Morning and evening sections. (Also offered 1949 summer term.)

109 Alternating-Current Machinery (3)
A continuation of Electrical Engineering 108. Converters, induction motors, single-phase motors. Prerequisite: Electrical Engineering 108. Afternoon and evening sections.

111-12 Electrical Measurements (2-2) Antel, Harris
Theory of direct-current and alternating-current instruments, bridges, and meters. Prerequisite or concurrent registration: Electrical Engineering 107. Morning and evening sections.

118 Advanced Network Theory I (3) Carley
Theory of resonance, linear networks, transmission lines, and filters. Prerequisite: Electrical Engineering 107. Morning and evening sections. (Also offered 1949 summer term.)

119 Advance Network Theory II (3) Carley
Theory of transmission at UHF and VHF frequencies including Maxwell's equations, wave guides, and methods of power generation at these frequencies. Prerequisite: Electrical Engineering 118 and Physics 132. Prerequisite or concurrent registration: Electrical Engineering 142. Morning and evening sections.

120 Advanced Network Laboratory I (2) The Staff
A laboratory course associated with Electrical Engineering 118. Laboratory fee, \$6. Laboratory (3 hours)—morning and evening sections. (Also offered 1949 summer term.)

121 Advanced Network Laboratory II (2) The Staff
A laboratory course associated with Electrical Engineering 119. Prerequisite: Electrical Engineering 120. Laboratory fee, \$6. Laboratory (3 hours)—afternoon and evening sections.

125-26 Principles of Electric Power Transmission (2-2)

Mechanical and electrical characteristics of transmission lines, approximate and rigorous solutions by means of hyperbolic functions, steady-state and elementary transient considerations, the more important phases of distribution of electrical energy. Prerequisite: Electrical Engineering 107. Evening.

133-34 Alternating-Current Laboratory (2-2) The Staff
A continuation of Electrical Engineering 105-6, with experiments on alternating-current circuits, instruments, and machinery. Prerequisite: Electrical Engineering 106 and 108. Laboratory fee, \$6 a term. Laboratory (3 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

- 137 *Electric Traction* (2)** Ames
Theory and practice of modern direct- and alternating-current rail-ways. Prerequisite: Electrical Engineering 10. Evening.
- 138 *Industrial Electrical Power Applications* (2)**
The characteristics of the various types of electrical motors and other power appliances and the principles governing their applications in industry. Prerequisite: Electrical Engineering 10. (Not offered in 1949-50.)
- 139 *Illumination Engineering* (2)** Antel
Principles and practices in present-day illumination engineering. Pre-quisite: Electrical Engineering 10. Evening.
- 140 *Electrical Design* (3)** Antel
Principles of design, with reference to materials of construction and electrical equipment. Practical exercises are assigned in connection with classroom work. Prerequisite: Electrical Engineering 109. Lec- ture (2 hours); laboratory (3 hours)—morning and evening sections.
- 142X *Radio-wave Propagation* (3)** Carley, Smith
Theory of the radiation and propagation of electromagnetic waves in space, with consideration of practical application to radio problems. Prerequisite: Electrical Engineering 118. Prerequisite or concurrent registration: Electrical Engineering 119 and Physics 133. Morning and evening sections.
- 148 *Applications of Electronic Devices* (3)** Carley
Practical applications of electronic devices such as power supplies, voltage regulators, multivibrators, electronic counters, and servo- mechanism. Prerequisite: Physics 133. Evening.
- 150 *Electronic Devices Laboratory* (2)** The Staff
A laboratory course associated with Electrical Engineering 148. Lab- oratory fee, \$6. Evening.
- 189-90 *Proseminar in Electrical Engineering* (1-1)** The Staff
Prerequisite: Electrical Engineering 108. Late afternoon.

ENGLISH

Robert Whitney Bolwell, Ph.D., *Professor of American Literature*
 Ernest Sewall Shepard, A.M., *Professor of English Literature, Executive Officer*

George Winchester Stone, Jr., Ph.D., *Professor of English Literature*
 Fred Salisbury Tupper, Ph.D., *Professor of English Literature*
 Calvin Darlington Linton, Ph.D., *Professor of English Literature*
 Charles William Cole, Ph.D., *Associate Professor of American Literature*

William Lewis Turner, A.M., *Associate Professor of English*
 Robert Hamilton Moore, Ph.D., *Associate Professor of English Composition*

Averett Howard, A.M., *Associate Professor of English Composition*
 Muriel Hope McClanahan, Ph.D., *Assistant Professor of English*
 James Harold Coberly, A.M., *Assistant Professor of American Literature*
 Martin Steele Day, Ph.D., *Assistant Professor of English*
 Phyllis Annette Nichols, A.M., *Assistant Professor of English*
 Vera Lillian Mowry, A.M., *Assistant Professor of English*
 *John Palmer Reesing, Jr., A.M., *Assistant Professor of English*
 John Gage Allee, Jr., A.M., *Assistant Professor of English*
 Ruth Elsie Jones, A.B., *Instructor in English Composition*
 Ruth Shryhock Nelson, A.M., *Instructor in English Composition*
 Carlton Ernest Brett, A.M., *Instructor in English Composition*
 Murray Hartman, A.M., *Instructor in English Composition*
 Otho Thompson Beall, Jr., A.M., *Instructor in English Composition*
 Leonard Adolph Tropin, A.B., *Instructor in English Composition*
 Alice Sylvia Venezky, A.M., *Instructor in English Composition*

The major in English Literature (Field-of-Study).—The coordinated knowledge which a student must exhibit in the major in English Literature, and upon which he will be examined at the end of his senior year, is summarized under four general headings: (1) the history of English literature from the Anglo-Saxon period; (2) the chief English writers (a certain familiarity with each man and his main works and a detailed knowledge of Shakespeare); (3) English social and political history as it bears upon or is reflected in the literature; (4) European intellectual backgrounds and movements which have affected English literature. It is advised that the student planning to major in English literature elect English 91-92 as his sophomore course. For details, see the pamphlet which is available in the Office of the Dean of Columbian College.

The major in American Thought and Civilization (Field-of-Study).—For details, see the pamphlet which is available in the Office of the Dean of Columbian College and consult the adviser.

* On leave of absence 1949-50.

ENGLISH COMPOSITION

FIRST GROUP

- A English Practice (3)** The Staff
Instruction, drill, and exercises in grammar, vocabulary, spelling, and mechanics in general; instruction and exercises in composition and reading. This course is designed to prepare students for English 1. Morning and evening sections. (Also offered 1949 summer term.)
- B English for Foreign Students (3)** Allee
A course in reading and writing designed to prepare the student for English 1. Special attention is given to spelling, syntax, grammar, idiom, and vocabulary. Evening.
- 1-2 Freshman English * (3-3)** The Staff
Review of grammar, exercises in composition, readings. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)
English 1x—same as English 1, but offered winter term. Morning, afternoon, and evening sections.
English 2x—same as English 2, but offered fall term. Morning, afternoon, and evening sections.
- 9 Sophomore Composition (3)** Howard and Staff
A study of types of expository writing with weekly exercises. Prerequisite: English 1-2. Morning and evening sections. (Also offered 1949 summer term.)
English 9x—same as English 9, but offered winter term. Morning.
- 10 The Short Story (3)** Howard and Staff
Some study of the technique of the short story and class criticism of student writing. Prerequisite: English 1-2. Morning and evening sections. (Also offered 1949 summer term.)
English 10x—same as English 10 but offered fall term. Morning and evening sections.

SECOND GROUP

- 115 The Writing of Fiction (3)** Howard
Writing the short story. Evening.
- 116 The Writing of Fiction (3)** Howard
Writing a novel. Evening.

ENGLISH LITERATURE

FIRST GROUP

- 51-52 Introduction to English Literature (3-3)** Stone and Staff
A historical survey. Prerequisite: English 1-2. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

* Students registered in English 1 are tested in the minimum essentials of standard usage, vocabulary, writing skill, and reading speed and comprehension. Those students who show marked superiority may, upon passing of further tests, be exempted from one or both terms of the Freshman English course; those who show deficiencies will be assigned to English A.

English 51x—same as English 51, but offered winter term. Morning and evening sections.

English 52x—same as English 52, but offered fall term. Morning and evening sections.

91-92 *Introduction to European Literature* (3-3) Shepard and Staff

Consideration of various types. Prerequisite: English 1-2. Afternoon and evening sections. (Also offered 1949 summer term—English 91 (3).)

SECOND GROUP

121-22 *English Literature from the Beginnings to 1500* (3-3) Allee

Fall term, English literature prior to Chaucer; winter term, Chaucer. Prerequisite: English 51-52, 71-72, or 91-92. Morning.

125 *The Evolution of Modern Speech* (3) Allee

The development of the English language in a historical treatment of English grammar. Evening.

126 *The Appreciation of Literature* (3) Stone

The study of the principles of criticism and their application to various literary types. Evening. (Also offered 1949 summer term.)

129-30 *Elizabethan Nondramatic Literature* (3-3) Tupper

Nondramatic literature from 1485 to 1603. Prerequisite: English 51-52, 71-72, or 91-92. Afternoon. (Also offered 1949 summer term—English 129 (3).)

135-36 *Shakespeare* (3-3) Tupper

Prerequisite: English 51-52, 71-72, or 91-92. Evening.

139-40 *The Seventeenth Century* (3-3) Linton

First half, poetry and prose from 1603 to 1660; second half, Milton. Prerequisite: English 51-52, 71-72, or 91-92. Evening. (Also offered 1949 summer term—English 140 (3).)

141-42 *The Neoclassical Movement* (3-3) Stone

Poetry and prose from 1660 through the mid-eighteenth century. Prerequisite: English 51-52, 71-72, or 91-92. Morning. (Also offered 1949 summer term.)

151-52 *The Romantic Movement* (3-3) Day

From the mid-eighteenth century through Shelley and Keats. Prerequisite: English 51-52, 71-72, or 91-92. Morning.

161-62 *Victorian Literature* (3-3) Shepard

Poetry and prose from 1830 to 1900. Prerequisite: English 51-52, 71-72, or 91-92. Evening. (Also offered 1949 summer term—English 161 (3).)

- 165-66 *The Twentieth Century* (3-3) Linton
British poetry, prose, and drama since 1900. Prerequisite: English 51-52, 71-72, or 91-92. Morning. (Also offered 1949 summer term—English 165 (3).)
- 181-82 *The English Novel* (3-3)
Major English novelists from Richardson to Woolf. Morning.
- 183-84 *The English Drama* (3-3) Tupper
The first half is concerned principally with the drama of Shakespeare's contemporaries. The second half is a historical survey from 1660 to the present day. Afternoon. (Also offered 1949 summer term—English 183 (3).)
- 199-200 *Proseminar: Readings for the English Literature Major* (3-3) Stone, Tupper, Linton
Conferences and group discussions. Afternoon and evening sections.

THIRD GROUP

- 201-2 *Methods and Materials in Elizabethan Research* (3-3)
Open only to the graduate student. Admission by permission of the instructor. (Not offered in 1949-50.)
- 222X *The Age of Chaucer* (3) Stone
Summer term 1949.
- 223-24 *Old English* (3-3) Allee
English language and literature before 1100. Fall term, Old English grammar and readings; winter term, Beowulf. Evening.
- 235-36 *Studies in Shakespeare and His Contemporaries* (3-3) Tupper
Prerequisite: English 135-36. Evening.
- 239-40 *Studies in the Seventeenth Century* (3-3) Linton
Prerequisite: English 139-40. (Not offered in 1949-50.)
- 241-42 *Studies in Neoclassical Literature* (3-3) Stone
Prerequisite: English 141-42. (Not offered in 1949-50.)
- 244X *Studies in Eighteenth Century Drama* (3) Stone
Evening.
- 251-52 *Studies in the Romantic Movement* (3-3) Day
Prerequisite: English 151-52. (Not offered in 1949-50.)
- 261-62 *Studies in Victorian Literature* (3-3) Shepard
Prerequisite: English 161-62. (Not offered in 1949-50.)
- 295-96 *History of English Literary Criticism* (3-3) Shepard
Open to the undergraduate with the approval of the instructor. During 1949-50, English 295 will be offered as 295X in the winter term; English 296 will be offered in the 1949 summer term only. Evening.
- 299-300 *Thesis* (3-3) The Staff

RELATED COURSES IN OTHER DEPARTMENTS

Classical Languages and Literatures 71-72, *Greek and Roman Backgrounds in Literature*
 Education 136, *Teaching of English*
 German 221, *Introduction to Linguistics*

AMERICAN LITERATURE

FIRST GROUP

71-72 *Introduction to American Literature* Bolwell and Staff
 (3-3)

A historical survey. First half: from the beginnings to the Civil War. Second half: from the Civil War to the present day. Prerequisite: English 1-2. Morning and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

171-72 *Studies in American Literature* (3-3) Cole

Major factors in the national cultural tradition as shown by outstanding writers. Prerequisite: English 51-52 or 71-72. Morning.

173-74 *Major American Poets* (3-3) Coberly, Cole

Advanced critical study of significant writers and movements. First half: from beginnings through nineteenth century. Second half: the twentieth century. Prerequisite: English 51-52, 71-72, or 91-92. Evening.

175-76 *American Drama* (3-3) Cole, Bolwell

Historical and critical study of significant plays and forms. First half: from beginnings through nineteenth century. Second half: the twentieth century. Prerequisite: English 51-52, 71-72, or 91-92. Evening. (Also offered 1949 summer term—English 175 (3).)

177-78 *American Fiction* (3-3) Coberly

Historical and critical study of significant novels and short stories. First half: from beginnings through nineteenth century. Second half: the twentieth century. Prerequisite: English 51-52, 71-72, or 91-92. Morning. (Also offered 1949 summer term—English 178 *Recent American Literature* (3).)

179-80 *Proseminar: Readings for American Thought and Civilization Majors* (3-3) Bolwell

Conferences and group discussions. Evening.

THIRD GROUP

271-72 *Seminar: American Literature* (3-3) Bolwell

Prerequisite: English 171-72 or the equivalent. Evening.

279-80 *Thesis* (3-3) The Staff

GEOGRAPHY

Robert Dale Campbell, A.M., *Associate Professor of Geography, Executive Officer*

William Franklin Jewell III, M.S., *Assistant Professor of Geography*

William Adriance Withington, A.M., *Instructor in Geography*

The major in Geography (Departmental).—Prerequisite: Geography 51 and 52. Required: twenty-four credit hours of Geography (which must include Geography 103-4 and 113-14) beyond first group courses; fifteen credit hours in one or more of the following departments: Botany, Geology, Economics, History, or Political Science. Strongly recommended: Botany 1 and 2; Economics 1-2 and History 71-72.

FIRST GROUP

- 51 *Introduction to Geography* (3) Campbell
A study of geography as human ecology; an analysis of the physical and cultural environments, and the relationships that exist between these environments and man. Morning and evening sections. (Also offered 1949 summer term.)
- 52 *Introduction to Earth Sciences* (3) Campbell, Jewell
An introduction to the sciences dealing with the physical earth: the lithosphere, the hydrosphere, and the atmosphere—with special emphasis upon those elements which most directly affect man's adjustment to his physical environment. Morning and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

- 103-4 *Cartography* (3-3) Jewell
Principles of cartographic drafting; map projections; map and chart planning, design, and construction; uses of maps. Prerequisite: Geography 51 and 52. Lecture and laboratory. Morning and evening sections. (Also offered 1949 summer term.)
- 113 *Geomorphology* (3) Jewell
The nature and evolution of earth forms, with special emphasis upon relief features of North America. Prerequisite: Geography 52. Afternoon.
- 114 *Weather and Climate* (3) Campbell
Rudimentary atmospheric physics, air mass and frontal weather analysis, regional climatology. Prerequisite: Geography 52. Afternoon.
- 122 *Political Geography* (3) Withington
The effect of geographic factors upon the structure and growth of states and upon the relations between states. Prerequisite: Geography 51. Morning.
Geography 122x—same as Geography 122, but offered fall term. Morning.

- 123x *Economic Geography* (3) Withington
A study of man's economic activities as adjustments to the physical and cultural environments. Prerequisite: Geography 51. Afternoon. (Also offered 1949 summer term.)
- 125 *Trade and Transportation* (3) Withington
The influence of geographic factors on the forms of transportation and upon trade routes. Prerequisite: Geography 51. 1949-50 and alternate years, afternoon.
- 131 *Conservation of Natural Resources* (3) Jewell
Principles and problems of conservation of soils, forests, minerals, wild life, and water. Prerequisite: Geography 51 and 52. 1949-50 and alternate years, evening.
- 132 *Land Use* (3) Jewell
Principles of utilization of urban and rural land; regional and city planning. Field trips and field problems. Prerequisite: Geography 51 and 52. 1950-51 and alternate years.
- 161 *Geography of Soils* (3) Jewell
The physical nature, development, and world distribution of soils; soils and land use; current and future soil problems. Field trips and field problems. Prerequisite: Geography 51 and 52. 1950-51 and alternate years.
- 171-72 *Field Geography* (3-3) Jewell
Field study methods; field analysis of local geographic adjustments, both urban and rural. Prerequisite: Geography 51 and 52. Lecture and field trip (6 hours). Afternoon.
- 181 *Anglo-America** (3) Withington
A regional survey of the United States and Canada. 1950-51 and alternate years.
- 182 *Historical Geography of the United States** (3) Withington
A study of the influence of the geographic environment during successive periods of American history. 1950-51 and alternate years.
- 183 *Northwest Europe** (3) Withington
1950-51 and alternate years.
- 184 *Mediterranean Region** (3) Withington
1950-51 and alternate years.
- 187 *Africa** (3) Withington
Summer term 1949.
- 191 *Middle America** (3) Withington
A study of the lands within the borders of the Caribbean Sea and the Gulf of Mexico, south of the United States. 1949-50 and alternate years, evening.

* Regional Geographic Survey.

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| 192 | <i>South America*</i> (3)
1949-50 and alternate years, evening. | Withington |
| 195 | <i>Eastern and Southern Asia*</i> (3)
1949-50 and alternate years, afternoon. | Withington |
| 196 | <i>Southwestern Asia and Soviet Union*</i>
(3)
1949-50 and alternate years, afternoon. | Withington |
| THIRD GROUP ‡ | | |
| 201-2 | <i>Seminar: History and Philosophy of
Geography</i> (3-3)
Time to be arranged. | Campbell |
| 215 | <i>Geographic Factors in American Foreign
Policy</i> (3)
Summer term 1949. | Koenig |
| 218 | <i>Regional Planning</i> (3)
A survey of national, regional, and local resource utilization programs; the history of planning; functions and ends; current techniques. 1949-50 and alternate years, evening. | Jewell |
| 231 | <i>Seminar in Geography</i> (3)
Subjects of immediate interest for students of geography and professional geographers in the Washington area. Time to be arranged. | The Staff |
| 295-96 | <i>Research</i> (3-3)
Special field or library studies in either systematic or regional geography. Time to be arranged. | The Staff |
| 299-300 | <i>Thesis</i> (3-3) | The Staff |

* Regional Geographic Survey.

‡ Senior major or graduate status is required for registration in any third-group course.

GEOLOGY

_____, *Associate Professor of Geology*

_____, *Instructor in Geology*

Minimum requirements for the major (Departmental).—Twenty-four credit hours of geology beyond the first-group courses.

FIRST GROUP

5 *Field Geology* (6)

Field trips to neighboring localities of geological interest, with classroom study. (Not offered in 1949-50.)

21-22 *Physical and Historical Geology* (3-3)

Survey course covering the principles of physiography, geology, and mineralogy. (Not offered in 1949-50.)

SECOND GROUP

121-22 *Paleontology* (3-3)

Lectures and laboratory work on classification and structure of fossil invertebrates, vertebrates, and plants, including their use as guide fossils in stratigraphic geology. (Not offered in 1949-50.)

123-24 *Regional Geology of North and South America* (3-3)

Lectures and map work on the physiographic regions of the Western Hemisphere, stressing the relationship between geology and geography and culture. (Not offered in 1949-50.)

125-26 *Regional Geology of the Eastern Hemisphere* (3-3)

Alternating with Geology 123-24 and with it completing a survey of the world. (Not offered in 1949-50.)

THIRD GROUP

215-16 *Seminar* (3-3)

Detailed study and presentation by the class and instructor of some phase of geology with review of current literature. (Not offered in 1949-50.)

227-28 *Research*

Original work on individual problems, including a digest of the published record. (Not offered in 1949-50.)

299-300 *Thesis* (3-3)

(Not offered in 1949-50.)

GERMANIC LANGUAGES AND LITERATURES

Edward Henry Sehr, Ph.D., *Professor of German, Executive Officer*
 Gretchen Louisa Rogers, Ph.D., *Associate Professor of German*
 Wolfram Karl Legner, Ph.D., *Associate Professor of German*
 Walter Julius Mueller, Ph.D., *Lecturer in German*
 Nicholas Trephon Cokenias, A.M., *Associate in German*

Minimum requirements for the major in Germanic Languages and Literatures (Departmental).—Twenty-four credit hours of German beyond first group courses.

FIRST GROUP

- †1-2 *First-year German* (3-3) Rogers, Legner, and Staff
 The essentials of German grammar; translation of easy prose. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)
 German 1x—same as German 1, but offered winter term. Morning.
 German 2x—same as German 2, but offered fall term. Morning.
- †3-4 *Second-year German* (3-3) Rogers, Legner, and Staff
 Selections from modern German prose; review of grammar. Prerequisite: German 1-2 or two years of high school German. Morning and evening sections. (Also offered 1949 summer term.)
 German 3x—same as German 3, but offered winter term. Morning.
 German 4x—same as German 4, but offered fall term. Morning.

SECOND GROUP

- †101-2 *Rapid Readings in Modern German Prose* (2-2) Rogers, Legner
 Morning and evening sections.
- †103-4 *Goethe's "Faust"* (3-3) Sehr
 Time to be arranged.
- †105-6 *German Classicism* (3-3) Sehr
 Particularly the works of Goethe and Schiller. (Not offered in 1949-50.)
- †107-8 *Advanced Prose Composition* (1-1) Rogers, Legner
 Morning and evening sections.
- 109-10 *German Drama since 1800* (3-3) Sehr
 Dramas of Kleist, Grillparzer, Hebbel, and Hauptmann. Time to be arranged.
- †111-12 *The German Romantic Movement* (3-3) Sehr
 (Not offered in 1949-50.)
- †115-16 *Survey of German Literature from the Ninth to the Nineteenth Century* (3-3) Legner
 (Not offered in 1949-50.)

- †117-18 *Survey of German Literature of the Nineteenth and Twentieth Centuries* (3-3) Rogers
Time to be arranged.
- †121-22 *Conversation and Composition* (3-3) Rogers, Mueller
Prerequisite: German 3-4 or the equivalent. Morning and evening sections.
- †123-24 *The German "Novelle und Roman"* (3-3) Rogers
(Not offered in 1949-50.)
- †125-26 *The German Lyric* (3-3) Legner
Time to be arranged.

THIRD GROUP

- †201-2 *Middle High German* (3-3) Sehrt
(Not offered in 1949-50.)
- †205-6 *Gothic* (3-3) Sehrt
Introduction to the comparative study of the Germanic languages.
(Not offered in 1949-50.)
- †209-10 *Old High German* (3-3) Sehrt
Evening.
- 213-14 *Old Norse* (3-3) Sehrt
Evening.
- †219-20 *Comparative Germanic Grammar* (3-3) Sehrt
(Not offered in 1949-50.)
- 221 *Introduction to Linguistics* (3) Sehrt
Linguistics and comparative philology. Admission by permission of the instructor. (Not offered in 1949-50.)
- 222 *Indo-European Languages* (3) Sehrt
Application of the laws of sound change in language; origin and development of suffixes and inflections; syntax. (Not offered in 1949-50.)
- †223-24 *Sanskrit* (3-3) Sehrt
Introduction to comparative Indo-European grammar. Evening.
- 299-300 *Thesis* (3-3) The Staff

HEALTH ADMINISTRATION

Daniel LeRay Borden, A.M., M.D., *University Surgeon, Director*
Luther Sheldon, Jr., M.D., *University Physician*
Elizabeth Kahler, A.M., M.D., *Associate University Physician*
Robert Howe Harmon, A.B., M.D., *Associate University Physician*
Ronald Atmore Cox, A.B., M.D., *Associate University Physician (Eye)*
Richard Bernard Castell, A.B., M.D., *Associate University Physician*
Alfred Brigulio, M.D., *Associate University Physician*
David Davis, A.B., M.D., *Associate University Physician (Nose and Throat)*
Juanita Love, R.N., *Nurse*
Mabel Viola Taylor, R.N., *Nurse-Secretary*

The University maintains a health service that is primarily diagnostic in its intent. For medical emergencies and health consultations there is, on the Campus, a Student Health Clinic open from 9:00 A.M. to 5:00 P.M., with physician and nurse in attendance. There is also a rest room for women, with a graduate nurse in charge.

Medical privileges include: (1) the physical examination of every student entering from secondary school;* (2) three visits by the University physician or surgeon, office or residence (District of Columbia) in any one illness, exclusive of a specialist, surgical operation, laboratory, or X-ray examination; (3) hospitalization, including board and nursing, in the University Hospital for not more than one week during a school year—the necessity to be determined by the Director of Health Administration. The duration of hospitalization period (maximum, one week) is also to be determined by the Director of Health Administration.

This medical benefit does not apply to illness or disability incurred previous to the University term or prior to payment of tuition fees.

The student is allowed, if he so desires, to engage physicians and nurses of his own choice, but when he does so he will be responsible for the fees charged.

Rules: (1) The Director of Health Administration is empowered to limit or deny the medical benefits where, in his discretion, a student has, by his misconduct or breach of the rules of the University, made himself ineligible; (2) the Director of Health Administration has authority to determine the necessity and length of hospitalization; (3) a student who has severed his connection with the University is ineligible for medical benefits; (4) a student intending to train for an athletic team is required to pass a thorough examination at the beginning of each term; (5) the above regulations apply also during the summer term of the University.

The University is not responsible for injuries received in inter-collegiate or intra-mural games, or in any of the activities of the physical education departments.

* A charge of \$2 is made by the University if a student fails to appear for a physical examination during the period set for this purpose.

HISTORY

Elmer Louis Kayser, Ph.D., LL.D., *Professor of European History*
 Alva Curtis Wilgus, Ph.D., *Professor of Latin American History*
 *Wood Gray, Ph.D., *Professor of American History, Executive Officer*
 Howard Maxwell Merriman, Ph.D., *Professor of American Diplomatic History*

Myron Law Koenig, Ph.D., *Professor of American History*
 H. F. Arthur Schoenfeld, A.M., *Professorial Lecturer on European Diplomatic History*

Roderic Hollett Davison, Ph.D., *Associate Professor of European History*

Ronald Bettes Thompson, A.B., *Assistant Professor of European History*

Richard Catlin Haskett, A.M., *Assistant Professor of American History*

Richard Marache Leighton, Ph.D., *Lecturer in History*

The major in History (Field-of-Study).—Prerequisite: History 39-40 and 71-72. The major is centered about the study of the rise, development, and spread, and the continuing challenges of Western civilization, attested by a major examination. Under the guidance of an adviser the student will arrange his program in History to attain a balanced coverage of (1) the rise of civilization in Europe to the eve of the French Revolution, (2) the spread of Western culture throughout the world since the close of the fifteenth century, (3) the historic problems of modern industrial civilization from the beginnings of the Industrial Revolution, and (4) the relations of the major nations of Europe and America in their world setting since the Napoleonic Wars. A six-hour research seminar to give training in fundamental techniques is a required part of each major's program, and a proseminar (History 199-200) is offered as a means of integrating the student's understanding of the continuity of Western civilization. For details relating to the administration and content of the major, see the pamphlet on this subject, which is available in the offices of the Dean of Columbian College and the Executive Officer of the History Department.

FIRST GROUP

39-40 *The Development of European Civilization (3-3)*

Kayser, Davison,
Thompson

Primarily for freshmen. Fall term: the political, social, economic, and cultural history of the Old World from ancient times to 1789. Winter term: from 1789 to the present. Morning and evening sections. (Also offered 1949 summer term.)

History 39x—same as History 39, but offered winter term. Afternoon.

History 40x—same as History 40, but offered fall term. Afternoon.

* On sabbatical leave fall term 1949-50.

71-72 *The Development of the Civilization of the United States (3-3)* Koenig, Haskett

Primarily for sophomores. Fall term: the political, social, economic, and cultural forces of the United States in their world setting from 1492 to 1865. Winter term: from 1865 to the present. Morning and evening sections. (Also offered 1949 summer term.)

History 71x—same as History 71, but offered winter term. Afternoon.

History 72x—same as History 72, but offered fall term. Afternoon.

SECOND GROUP *

109-10 *The Civilization of the Ancient World (3-3)* Kayser

Fall term: the culture of Ancient Greece to the end of the Hellenistic period. Winter term: Roman culture from its beginnings to the fall of the Empire in the West. (Not offered in 1949-50.)

119 *Intellectual History of Europe During the Middle Ages (3)* Kayser

A historical survey of the culture of Western Europe from the fall of the Roman Empire to the end of the thirteenth century. Morning.

120 *Intellectual Aspects of the Renaissance and the Reformation (3)* Kayser

Aspects of the development of the modern mind approached through a study of the lives and contributions of outstanding personalities of the period. Morning.

130x *Nationalism (3)* Kayser

The historical evolution of modern nationalism.

Summer term 1949.

139 *Modern Imperialism (3)*

Africa and Europe in the nineteenth and twentieth centuries.

Summer term 1949.

145-46 *Russian History (3-3)* Thompson

Main currents in economic, social, and political developments and world relations. Fall term: from the rise of the Kievan state to the Revolution of 1917. Winter term: the Soviet period. Morning and evening sections.

147 *Economic History of Europe (3)* Leighton

A survey from ancient times to the present day. Evening. (Also offered 1949 summer term.)

148 *Oversea Expansion of Europe (3)* Leighton

International rivalries and the impact of European civilization in Africa and the Pacific basin since 1500, with emphasis on the nineteenth and twentieth centuries. Evening.

149-50 *European Diplomatic History (3-3)* Davison

Background of the European state system and of diplomatic practices and relations since the Congress of Vienna, with emphasis on the policies and actions of the great powers and their statesmen. Fall term: to 1871; winter term: since 1871. Morning and evening sections. (Also offered 1949 summer term—History 150 (3).)

* History 39-40 is prerequisite to courses 109 through 152; History 71-72, to courses 161 through 186.

- 151-52 *English History* (3-3) Haskett
A general survey course. Morning and evening sections.
- 161-62 *Latin American History* (3-3) Wilgus
Development of political, economic, social, and institutional affairs of the Ibero-American colonies (fall term) and the period since independence (winter term). Evening. (Also offered 1949 summer term.)
History 161x—same as History 161, but offered winter term. Afternoon.
History 162x—same as History 162, but offered fall term. Afternoon.
- 163-64 *Current Latin American Problems* (3-3) Wilgus
Afternoon.
- 171x-72 *Social History of the United States* (3-3) Gray
Daily life, institutions, intellectual and artistic achievements of the Agrarian Era, 1607-1861, and the Urban-Industrial Era, 1861 to the present time. Morning.
- 173 *Representative Americans* (3) Gray
A biographical approach to national history. Some fifty significant and pivotal personalities in the development of the United States in government, business, science, religion, journalism, the arts, and social reform.
Summer term 1949.
- 174 *Economic History of the United States* (3) Gray
Main trends in the development of American agriculture, industry, and trade since 1607, with emphasis on tendencies and problems since the Civil War. Evening. (Also offered 1949 summer term.)
- 181-82 *Diplomatic History of the United States* (3-3) Merriman
Tendencies toward isolation, expansion, and collectivism; disputes with foreign countries and their settlement; and the activities of the American secretaries of state and diplomatic agents. Fall term: to the Civil War; winter term: since the Civil War. Morning and evening sections. (Also offered 1949 summer term.)
- 183 *Oversea Expansion of the United States* (3) Merriman
The political, economic, social, and cultural life of our outlying possessions. Morning.
- 184 *Canada and the United States* (3) Merriman
The historical background and main trends in the relationship of the two English-speaking peoples of North America. Morning.
- 191-92 *Current History* (1-1) Kayser
Contemporary events in their world setting. Afternoon.
- 199-200 *Proseminar: Reading for the History Major* (3-3) The Staff
Limited to majors in History. Readings and discussions on main trends in the history of Western civilization, including representative selections from the classics of historical literature. Evening. (Also offered 1949 summer term.)

THIRD GROUP *

- 239 *Seminar in Modern Imperialism* (3)
Oversea rivalries in the nineteenth and twentieth centuries.
Summer term 1949.
- 241-42 *Conference Seminar in Recent European Diplomatic History* (3-3) Schoenfeld
Evening.
- 243-44 *Reading Course in Modern European History* (3-3) Davison
Primarily for graduate students. Time to be arranged. (Also offered 1949 summer term—History 244 (3).)
- 245-46 *Seminar in Russian History* (3-3) Thompson
Evening.
- 247-48 *Reading Course in Russian History* (3-3) Thompson
Primarily for graduate students. Time to be arranged.
- 249-50 *Seminar in European Diplomatic History* (3-3) Davison
Afternoon.
- 261-62 *Seminar in Latin American History* (3-3) Wilgus
Afternoon. (Also offered 1949 summer term—History 262 (3).)
- 265-66 *Reading Course in Latin American History* (3-3) Wilgus
Primarily for graduate students. Time to be arranged.
- 272 *Seminar in the Social History of the United States* (3) Gray
Summer term 1949.
- 274 *Reading Course in American Social History* (3) Gray
Primarily for graduate students. Time to be arranged.
- 275-76 *Seminar in American Political and Constitutional History* (3-3) Haskett
Evening.
- 277-78 *Reading Course in British and American Constitutional History* (3-3) Haskett
Primarily for graduate students. Time to be arranged.
- 281-82 *Seminar in the Diplomatic History of the United States* (3-3) Merriman
Evening. (Also offered 1949 summer term—History 281 (3).)

* Approval of the instructor is required for registration in each third-group course.

- 285-86 *Reading Course in the Diplomatic History of the United States (3-3)* Merriman
Primarily for graduate students. Time to be arranged.
- 287 *Conference Seminar on the Development of the Foreign Policy of the United States (3)* Schoenfeld
Evening.
- 291-92 *Seminar (3-3)* The Staff
Prerequisite: approval of the Department. Time to be arranged.
(Also offered 1949 summer term.)
- 299-300 *Thesis (3-3)* The Staff
Required of all candidates for the Master's degree specializing in history. Time to be arranged. (Also offered 1949 summer term.)

HOME ECONOMICS

Frances Kirkpatrick, A.M., *Professor of Home Economics, Executive Officer*

Kathryn Mildred Towne, A.M., *Associate Professor of Home Economics*

Minimum requirements for the degree.—See pages 129, 131.

FIRST GROUP

- 1 *Food Selection and Preparation* (3)
Kirkpatrick

Composition, selection, and preparation of food; analysis of recipes; standard products; planning, preparing, serving, and estimating the cost of meals. Material fee, \$12.50. Morning and evening sections.
- 22 *Clothing: Its Selection, Cost, and Care* (3)
Towne

Clothing selection—the economic, aesthetic, and hygienic aspects; the application of the principles of color and design to individual selection; the care of clothing. Morning.

Home Economics 22x—same as Home Economics 22, but offered fall term. Evening.
- 51 *Family Meals* (3)
Kirkpatrick

The choice, purchase, preparation, and service of foods; dietary standards, food habits, and the nutritional needs of the family; problems of purchasing, care, and use of food by the consumer. Material fee, \$7.50. Lecture (2 hours), laboratory (3 hours)—morning.
- 53x *Family Health and Household Sanitation* (3)
Kirkpatrick

Home hygiene and home care of the sick; the principles of household sanitation in relation to health and diseases. Material fee, \$4. Evening.
- 62 *Clothing Construction* (3)
Towne

Techniques of construction suitable for cotton, wool, and rayon fabrics; the use of commercial patterns and their alteration; the proper selection of color, design, and fabric. Material fee, \$4. Morning and afternoon sections.
- 71 *Costume Design and Fashion Economics* (3)
Towne

Factors determining fashions and effect on cost of clothing; problems of the consumer of textiles and clothing; historic costume and its relation to modern dress. Material fee, \$3. Afternoon.
- 72x *Household Textiles* (3)
Towne

Properties, uses, and tests of the different textile fibers and fabrics; and development of judgement and knowledge of standard for the consumer of clothing and house-furnishing material. Material fee, \$3. Morning.
- 77 *Marketing* (3)

Purchasing of foods as it relates to the home and to the institution (Offered 1950-51 and alternate years.)

SECOND GROUP

- 102 *Advanced Food Preparation* (3) Kirkpatrick
The application of the fundamental processes of food preparation to a wider range of food materials and various services for different occasions. Material fee, \$12.50. Morning.
- 106 *Quantity Cookery* (3) The Staff
(Not offered in 1949-50.)
- 123x *Household Finance and Problems of the Consumer* (3) Towne
Economic problems of the family in modern industrial society; family income; income apportionment and household expenditures; laws affecting the home; investments; consumer buying. Evening.
- 143 *Advanced Clothing Construction* (3) Towne
Problems of clothing construction, including renovation, flat pattern designing. Material fee, \$4. (Offered in 1950-51 and alternate years.)
- 148 *Food Problems* (3) Kirkpatrick
Factors affecting the preparation of standard products from the experimental viewpoint; principles of food demonstrations. Material fee, \$12.50. (Not offered in 1949-50.)
- 152x *Nutrition* (3) Kirkpatrick
Lecture course on the principles of normal and abnormal human nutrition. Laboratory work on the calculation and preparation of dietaries. Laboratory fee, \$3. Afternoon.
- 154 *Diet Therapy* (3)
Study of nutrition as applied to diet and disease. (Not offered in 1949-50.)
- 164 *Child Nutrition* (3) Kirkpatrick
Basic principles in nutrition and growth of the infant, pre-school, and adolescent child in health and disease. Morning.
- 168 *Institutional Management* (3)
Study of the organization, equipment, and marketing problems of institutions. (Not offered in 1949-50.)
- 171 *House Furnishing* (3) Towne
Home planning from the historic, artistic, economic, and sanitary viewpoints; home furnishings such as linens, dishes, floor covering, mattresses, etc. Material fee, \$3. Morning.
- 181 *The Child in the Home* (3) Kirkpatrick
Care and development of children; parent-child relationships. (Offered in 1950-51 and alternate years.)
- 192 *The Home, Its Management and Equipment* (3) Kirkpatrick
Economical management of the home; distribution of time and energy; problems in the selection, arrangement, and care of equipment. Afternoon.

- 193 *Supervision of Home Management* (3) The Staff
Field work under supervision. Designed to meet requirements of those preparing to teach in federally-aided schools. Time to be arranged.
- 195-96 *Special Problems* (3-3) The Staff
Individual investigation or study under the guidance of a member of the staff. Suggested problems are: home economics education, marketing, tailoring, and draping. Program and conferences arranged with an instructor. Afternoon.
- 197-98 *Proseminar* (3-3) The Staff
The study of the most recent materials and problems in the various phases of home economics. Evening.

JOURNALISM

Elbridge Colby, Ph.D., *Associate Professor of Journalism, Executive Officer*

Joseph Marshall Mathias, A.B., LL.B., *Lecturer in Journalism*

Edwin De Frees Neff, M.S., *Lecturer in Journalism*

Stanley Samuel Baitz, LL.B., *Lecturer in Journalism*

Frank Landt Dennis, A.B., LL.B., *Lecturer in Journalism*

The major in Journalism (Departmental).—Prerequisite: Journalism 71-72. Required: a minimum of twenty-four credit hours of journalism including 116, 151-52, and 199. It is recommended that electives in the junior college be selected from the following: Economics 1-2, English 71-72, History 71-72, Political Science 9-10, Sociology 1-2, 71-72; and in Columbian College from the following: Business Administration 169, 171, 172; English 171-72, 177-78; Geography 171; History 171-72, 174, 181-82, 191-92; Philosophy 172.

FIRST GROUP

71-72 *Journalism Survey (3-3)*

Colby

History of American journalism; the newspaper and society; survey of character and content of leading newspapers to develop intelligent reading necessary for understanding of current events. Practice in news writing. Prerequisite: English 1-2 or the equivalent. Morning and evening sections.

SECOND GROUP

111-12 *Reporting (3-3)*

Baitz, Mathias

Techniques of newspaper reporting, instruction and practice in modern methods of gathering and presenting news. Prerequisite: English 1-2 and permission of the instructor. Laboratory fee, \$3 a term. Morning and evening sections.

115 *Copy Editing and Make-up (3)*

Dennis

Editing of news prior to publication, the copy desk, head lines, make-up, the city editor and his functions, the small town paper. Morning.

116 *Public Relations (3)*

The press and information office, technique of news releases, public addresses as news, promotion of feature material, the problem of public relations in government agencies and commercial establishments. Evening.

121-22 *Feature Writing (3-3)*

Neff

Instruction and practice in writing of special newspaper and magazine articles for sale, material for which is obtained through interviews and independent investigation. Prerequisite: Journalism 71-72, 111-12, or the equivalent. Morning.

142 Newspaper Advertising (3)

Newspaper advertising management, coordination of newspaper advertising with retail sales patterns, advertising readership, copy preparation, production methods. Prerequisite: Business Administration 169. Evening.

147-48 Reporting of National and International Affairs (3-3)

Training in the coverage and presentation of national and international news, special attention to Washington correspondence and press association reporting. Prerequisite: Journalism 111-12 or the equivalent. Laboratory fee, \$3 a term. (Not offered in 1949-50.)

151-52 Editorial Writing (3-3)**Colby**

Current events from the standpoint of editorial interpretation, instruction and practice in the writing of editorials and columns on public affairs. It is recommended that History 191-92 be taken in conjunction with this course. Prerequisite: Journalism 111-12 or the equivalent. Morning and evening sections.

199 Law of the Press (2)**Colby**

Freedom of the press, censorship, legislative controls, publication contempt of court, copyright, news gathering agencies, labor law and the newspaper business, law of libel, privileged matter, fair comment on public characters, right of privacy. (Not offered in 1949-50.)

LAW

William Cabell Van Vleck, A.B., LL.B., S.J.D., LL.D., *Professor of Law*
 Charles Sager Collier, A.B., LL.B., S.J.D., *Professor of Law*
 William Thomas Fryer, A.B., LL.B., J.D., *Professor of Law*
 Saul Chesterfield Oppenheim, A.M., J.D., S.J.D., *Professor of Law,*
Executive Officer

Carville Dickinson Benson, A.B., LL.B., S.J.D., *Professor of Law*
 James Forrester Davison, A.B., LL.M., S.J.D., *Professor of Law*
 James Oliver Murdock, Ph.B., LL.B., *Professor of Law*
 Levi Russell Alden, A.M., LL.B., *Adjunct Professor of Law*
 George Bowdoin Craighill, A.B., LL.B., *Adjunct Professor of Law*
 James Ward Morris, A.B., *Adjunct Professor of Law*
 James Robert Kirkland, A.B., LL.M., *Adjunct Professor of Law*
 Bolitha James Laws, LL.M., *Adjunct Professor of Law*
 Frank Hammett Myers, LL.M., *Adjunct Professor of Law*
 Conder Caywood Henry, A.B., LL.B., *Adjunct Professor of Law*
 Elliott DeJarnette Marshall, LL.B., *Adjunct Professor of Law*
 John Wingfield Jackson, B.S., LL.B., *Adjunct Professor of Law*
 John Albert McIntire, A.B., LL.B., *Professorial Lecturer in Law*
 William Randall Compton, M.B.A., LL.B., J.S.D., *Professorial Lecturer*
in Law
 Justin Lincoln Edgerton, A.B., LL.B., *Professorial Lecturer in Law;*
Clerk of the Moot Court

Charles Sylvanus Rhyne, LL.B., *Professorial Lecturer in Law*
 Karl Rhorer Price, A.B., LL.B., *Professorial Lecturer in Law*
 Raymond Stevens Smethurst, B.S., LL.B., *Professorial Lecturer in Law*
 Francis Gerald Toye, B.S. in E.E., LL.B., *Professorial Lecturer in Law*
 Philip Field Herrick, A.B., LL.M., *Professorial Lecturer in Law*
 Louis Loss, B.S., LL.B., *Professorial Lecturer in Law*
 George Edward Monk, A.B., LL.M., *Professorial Lecturer in Law*
 Harryman Dorsey, A.B., LL.B., *Associate Professor of Law*
 Robert McKinney Cooper, Ph.M., J.D., *Associate Professor of Law*
 *Leroy Sorenson Merrifield, A.B., LL.B., M.P.A., *Associate Professor of*
Law

John Patrick Burke, A.B., LL.B., *Associate Professor of Law*
 Donald James Farage, A.B., LL.B., *Associate Professor of Law*
 Herman Israel Orentlicher, A.B., LL.B., *Associate Professor of Law*
 *August Gottlieb Eckhardt, A.B., LL.M., *Assistant Professor of Law*
 James Andrew Durham, A.B., LL.B., M.B.A., *Assistant Professor of*
Law

* On leave of absence 1949-50.

William Leigh Ellis, A.B., LL.M., *Lecturer in Law*

John Alexander Kendrick, A.B., LL.B., *Assistant Clerk of Moot Court*

102 *Agency* (2)

Cooper, Durham

Problems of agency in the conduct of business. Casebook to be announced. Morning and evening sections.

112x *Contracts* (4)

Orentlicher, —

Promissory obligation: offer and acceptance, consideration, statute of frauds, formal instruments, rights of third parties, assignments, joint obligations, conditions, performance, discharge. Casebook to be announced. Morning and evening sections.

123 *Criminal Law and Procedure* (4)

Murdock, Cooper

Elements of criminal liability; specific crimes; combinations of persons in crime; criminal procedure. Harbo, *Cases and Materials on Criminal Law and Procedure*, 2d ed. Morning and evening sections.

Summer term 1949.

129-30 *Legal Method and Legal System* (2-2)

Fryer, Benson, —

Introduction to study of substantive and procedural law. Examination of basic concepts with training in method and technique of case law, based upon modern records in state and federal cases and individual practice in the use of law books and legal writing. Importance of language in law and legal reasoning, both apart from and in connection with statutory interpretation and as affected by the use of precedents, under the doctrines of stare decisis, law of the case, and res judicata. Background on development of the English and American legal systems; organization of the judiciary and the bar, stressing enforcement of ethical standards. Fryer and Benson, *Cases and Materials on Legal Method and Legal System*. Morning and evening sections. (Also offered 1949 summer term.)

Law 129x—same as Law 129, but offered winter term. Morning and evening sections.

133 *Property I* (4)

Fryer, —

Concepts of property, possession, and ownership; legal relations with respect to chattels and documentary intangibles created by gift, sale, pledge, lien, bailment, etc. Fraser, *Cases on Property*, Vol. II, 2d ed.; Fryer, *Readings on Personal Property*, 3d ed. Morning and evening sections.

138 *Property II* (4)

Benson, —

Real property; introduction; estates, seisin, landlord and tenant; future interests at common law and under the statutes of uses and wills; merger, elementary study of remoteness and powers; adverse possession; prescription; natural rights. Fraser, *Cases on Property*, Vol. I and II, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)

141x *Torts* (4)

Van Vleck, —

Civil liability for harms to legally protected interests. Thurston and Seavey, *Cases on Torts*. Morning and evening sections. (Also offered 1949 summer term.)

- 205x *Civil Procedure* (4) Burke, Farage
 Function and composition of pleadings, including their relation to proof. Emphasis is upon reforms, as exemplified by modern code provisions and the Federal Rules of Civil Procedure. Clark, *Cases on Pleading and Procedure*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 214x *Constitutional Law* (4) Collier, Farage
 Historical introduction; judicial approach and methods; doctrine of the separation of powers; powers of the National Government; the federal system; relation of the state courts and the federal courts. Dodd, *Cases on Constitutional Law*, 3d ed. Morning and evening sections.
- 223x *Domestic Relations* (2) Compton, _____
 Marriage, annulment, and divorce; rights of husband and wife; rights of parent and child; infants; conflict of laws involving problems of marriage evasion and migratory divorce. Madden and Compton, *Cases on Domestic Relations*. Morning. (Also offered 1949 summer term.)
- 231 *Equity* (4) Burke, _____
 Specific performance of contracts; equitable conversion; statute of frauds; mutuality; conditions; defenses; equitable servitudes; powers of an equity court; effect of decrees, interpleader, bills of peace, cloud on title, rescission and reformation, mistake. Chafee and Simpson, *Cases on Equity*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 234 *Evidence* (4) Fryer
 Functions of court and jury; witnesses; hearsay, opinion, and circumstantial evidence; proof of authenticity and contents of writings. McCormick, *Cases on Evidence*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)
- 246 *Negotiable Instruments* (4) Orentlicher
 Bills of exchange, promissory notes and checks, especially under the Negotiable Instruments Law. Casebook to be announced. Morning and evening sections. (Also offered 1949 summer term.)
- 248x *Property III* (2) Benson, _____
 Conveyances, rents, easements, profits, licenses, covenants, running with the land, and recording. Kirkwood, *Cases on Conveyances*, 2d ed. Morning and evening sections.
- 251 *Restitution* (4) _____
 Legal remedies for restitution of benefits obtained or conferred by performance of contract, misrepresentation, mistake, and coercion. Summer term 1949.
- 253x *Trade Regulation I—Unfair Trade Practices* (4) Oppenheim
 Unfair trade practices at common law and under state and federal statutes. Trade-marks and trade names, including Trade Mark Act of 1946. Misappropriation. False advertising at common law. Fed.

eral Trade Commission jurisdiction over misrepresentation practices. Lotteries and premiums. Disparagement of competitor's goods and business methods. State Fair Trade Acts (resale price maintenance). Price discrimination (State and Federal Robinson-Patman Act). State statutes, prohibiting sales below cost. Inducing breach of contract. Commercial bribery. Miscellaneous business torts constituting unprivileged interferences with advantageous business relations. Oppenheim, *Cases on Unfair Competition*. Morning and evening sections.

254x Wills (2)

Benson, _____

Formation and revocation of wills; testate and intestate succession. Mechem and Atkinson, *Cases on Wills and Administration*, 3d ed. Morning and evening sections. (Also offered 1949 summer term.)

256 Sales (2)

Orentlicher, _____

Common law, Uniform Sales Act and related statutes. Intention to transfer of property interest (specific, unascertained, and future goods); specification and appropriation; cash and conditional sales; C.O.D., F.O.B., and C.I.F. shipments; negotiable bills of lading and warehouse receipts; trust receipts; fraud on seller, retention of possession and bulk sales; remedies of seller and buyer, including suit for price, stoppage in transit, seller's warranties; inspection. Bogert, *Cases on Sales*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)

303-4 Administrative Law (2-2)

Davison _____

Legislative setting for administrative bodies; judicial control of administrative action, public utilities, taxation, alien laws. Federal Trade Commission, workmen's compensation, etc. Katz, *Cases on Administrative Law*. Morning section (2-2)—fall and winter terms; evening section (4)—fall term.

311-12 Corporations (2-2)

Dorsey, Cooper _____

Legal requirements as to contributions of capital; powers and rights of corporations, corporate officials, and shareholders. Berle and Warren, *Business Organization—Corporations*. Morning and evening sections. (Also offered 1949 summer term.)

315 Conflict of Laws (4)

Van Vleck, _____

Study of cases involving foreign elements; principles of jurisdiction and limitations upon its exercise; procedure, torts, workmen's compensation, contracts, property, family law, administration of estates, business associations. Cheatham, Dowling, Goodrich, and Griswold, *Cases on Conflict of Laws*, 2d ed. Morning and evening sections. (Also offered 1949 summer term.)

317 Creditors' Rights (4)

Remedies of unsecured creditors: judgments, fraudulent conveyances, creditors' agreements, equity and statutory receiverships, and bankruptcy. The general approach is that of law administration. Summer term 1949.

321-22 Current Decisions (2-2)

Davison _____

Required of, and limited to, members of the student staff of the *Law Review*. Time to be arranged.

- 324 *Federal Jurisdiction* (2) Cooper
Constitutional origins and powers of federal courts; sources of law applicable to them; business and extent of jurisdiction of federal courts. McCormick and Chadbourn, *Cases on Federal Courts*. Morning and evening sections.
- 326 *Insurance* (2)
The insurance device in life, property, and other risks. Vance, *Cases on Insurance*, 3d ed. Morning. (Also offered 1949 summer term.)
- 328 *International Law* (4) Murdock
Customary and treaty rights and duties of states; diplomatic and consular agents; treaty interpretations; nationality laws; international courts; claims procedure; war; neutrality. Hudson, *Cases on International Law*, 2d ed. Morning and evening sections.
- 329-30 *Labor Law* (2-2) Smethurst
Laws applicable to strikes, picketing, boycotts, etc.; organization and representation of employees; negotiation of collective bargaining contracts; inter-union and intra-union relations; settlement of wage disputes (arbitration, mediation, conciliation). Cases, legislative and administrative materials, readings. Evening. (Also offered 1949 summer term.)
- 332 *Legal Accounting* (2)
A study of elementary accounting principles and techniques, and an introduction to the interpretation of financial statements. Evening.
- 333-34 *Legislation* (2-2) Ellis
Justiciable aspects of the legislative process; forms and types of statutes; principles of statutory interpretation, structure, and drafting. Read & MacDonald, *Cases and Materials on Legislation*. Evening.
- 335-36 *Moot Court* (2-2) Laws, Morris, Craighill, Kirkland, Edgerton, Myers, Marshall, Jackson, Herrick, Monk
To be taken in the senior year. Prerequisite: Law 205 and 234. Morning and evening sections.
- 345 *Patent Law* (2) Toye
Substantive patent law; patentability; revision, use and enforcement of patents. Evening.
- 346 *Patent Office Practice* (2) Henry
Rules of Practice; appeal and interference procedure. Evening.
- 349-50 *Patent Moot Court* (2-2) Henry
This course may be elected instead of Law 335-36 to satisfy the Moot Court requirement. Both subjects may not be counted toward a degree. Evening.
- 351 *Public Utilities* (2) Davison
Limits of regulation of businesses affected with public interest; ascertainment of value of property used for the public service and the fixing of adequate rates of return. Welch, *Cases on Public Utilities*, 3d ed. Evening.

- 358 *S.E.C. Aspects of Corporate Finance* (2) Loss
Federal and state regulation of the distribution of securities, the securities markets, and the corporate structure, and management of public utility and investment companies. Primarily the aspects of corporate finance dealt with by the Securities and Exchange Commission. Evening.
- 362x *Security Transactions* (4) Durham
Security interests in real and personal property, their creation, transfer, enforcement, and extinguishment, together with security problems in the fields of suretyship and bankruptcy. Casebook to be announced. Morning and evening sections.
- 373x *Taxation* (4) Collier
Introductory course on basic concepts of federal tax system. Attention given state inheritance and income taxes. Problem of jurisdiction to tax, construction of tax statutes, methods of judicial review of administrative actions in the tax field, modern excise taxes on business concerns. Magill and Maguire, *Cases on Taxation*, 4th ed. Morning.
- 375-76 *Taxation—Federal* (2-2) Price
Federal income, gift and estate taxes, and selected federal tax problems. Evening.
- 378x *Trade Regulation II—Federal Anti-Trust Laws* (4) Oppenheim
Restraints of trade at common law. Public policy under Sherman Anti-Trust Act of 1890 and Federal Trade Commission and Clayton Acts, including mergers, consolidations and monopoly. Loose association activities (price-fixing agreements, trade associations, international cartels). Specific practices such as resale price maintenance, delivered price systems, exclusive arrangements and tying devices, trade boycotts. Patents and copyrights under anti-trust laws. Remedies. Oppenheim, *Cases on Federal Anti-Trust Laws*. Morning and evening sections.
- 381 *Trusts* (4) Dorsey
Creation, elements, administration, enforcement, termination. Liabilities to and of third persons. Resulting and constructive trusts. Bogert, *Cases on Trusts*. Morning and evening sections.
- 403-4 *Administrative Law Seminar* (2-2) Davison
Research seminar course in special problems, including the study of specific administrative agencies, federal or state. Time to be arranged.
- 406x *Aviation Law* (2) Rhyné
Procedure before Civil Aeronautics Board; legal problems arising in connection with air transportation and airports; international conventions and organizations. Evening.
- 407 *Admiralty* (2) Alden
Federal and state jurisdiction; jurisdiction over waters, craft, contracts, torts, crimes, in equitable matters, etc.; laws applicable to maritime workers and maritime liens. Sayre, *Cases on the Law of Admiralty*. Morning.

- 415 *Comparative Law* (4) Murdock
Historical and comparative study of some of the institutions and principles of the Roman and modern Civil Law (law of South and Central America and most of the Continent of Europe) compared with those of the Common Law; the influence of the former upon the latter. Evening.
- 421 *Constitutional Law Seminar* (2) Collier
Research seminar in contemporary problems in constitutional law. Time to be arranged.
- 430 *International—Comparative Law Seminar* (2) Murdock
Research seminar in contemporary problems. Time to be arranged.
- 434x *Interstate Commerce Commission Law and Procedure* (2) _____
Interstate Commerce Act; the Interstate Commerce Commission; practice and procedure before the Commission. Evening.
- 435x *Jurisprudence* (2) Collier
History of jurisprudence; schools of jurists, particularly the nineteenth century schools; sociological jurisprudence; theories of justice; the nature of law; law and morals; law and the state; the scope and subject matter of law, sources and forms of law; the traditional element; analysis of general legal concepts. Hall, Readings in Jurisprudence. Morning. (Also offered 1949 summer term.)
- 447-48 *Municipal and Government Corporations* McIntire
(2-2)
Municipal corporations: organization, powers, functions and legal relations of local governmental units. Federal corporate agencies: organization, powers, functions, and legal relations of functional governmental units separately incorporated. Tooke and McIntire, Cases on Municipal Corporations. Evening.
- 451-52 *Trade Regulation Seminar* (2-2) Oppenheim
A research seminar in specific current problems relating to federal anti-trust laws and unfair trade practices. Time to be arranged.

MATHEMATICS

James Henry Taylor, Ph.D., *Professor of Mathematics, Executive Officer*
 Francis Edgar Johnston, Ph.D., *Professor of Mathematics*
 *Florence Marie Mears, Ph.D., *Professor of Mathematics*
 Nels David Nelson, Ph.D., *Assistant Professor of Mathematics*
 Earl Larkin Williams, A.M., *Lecturer in Mathematics*
 Joachim Weyl, Ph.D., *Lecturer in Mathematics*
 Daniel Maccabaeus Dribin, Ph.D., *Lecturer in Mathematics*
 William Henry Erskine, Ph.D., *Lecturer in Mathematics*
 Louis William Tordella, Ph.D., *Lecturer in Mathematics*

Minimum requirements for the major in Mathematics (Departmental).—Fifteen credit hours of mathematics beyond calculus, i.e., of approved second- and third-group courses.

FIRST GROUP ‡

3 *College Algebra* (3)

The Staff

Exponents and logarithms; linear equations; complex numbers; quadratic equations; introduction to theory of equations; mathematical induction and the binomial theorem; permutations, combinations, and probability; determinants; progressions. Prerequisite: one year each of high school algebra and high school geometry. Morning and evening sections. (Also offered 1949 summer term.)

Mathematics 3x—same as Mathematics 3, but offered winter term. Morning and evening sections.

6 *Plane Trigonometry* (3)

The Staff

Prerequisite: two years of high school algebra and one year of high school geometry, or Mathematics 3 (or concurrent registration therefor). Morning and evening sections. (Also offered 1949 summer term.)

Mathematics 6x—same as Mathematics 6, but offered fall term. Morning and evening sections.

12 *Analytic Geometry* (3)

The Staff

Prerequisite: Mathematics 3 and 6, or two years of high school algebra, one year of high school geometry, and one-half year of high school trigonometry. Morning and evening sections. (Also offered 1949 summer term.)

Mathematics 12x—same as Mathematics 12, but offered fall term. Morning and evening sections.

* On sabbatical leave winter term 1949-50.

‡ No first-group course in mathematics is available for college credit if the student's previous training in mathematics meets the prerequisite for a higher numbered course.

- 19 *Differential Calculus* (3) The Staff
Prerequisite: Mathematics 12. Morning and evening sections. (Also offered 1949 summer term.)
Mathematics 19x—same as Mathematics 19, but offered winter term. Morning and evening sections.
- 20 *Integral Calculus* * (3) The Staff
Prerequisite: Mathematics 19. Morning and evening sections. (Also offered 1949 summer term.)
Mathematics 20x—same as Mathematics 20, but offered fall term. Morning and evening sections.

SECOND GROUP *

- 102X *Fundamental Concepts of Mathematics* (3) Nelson
Evening.
- 112 *Mathematics for Engineers and Scientists* (3) The Staff
Topics from advanced calculus, partial differential equations, vector analysis, and complex variables. Prerequisite: Mathematics 132. Evening.
Mathematics 112x—same as Mathematics 112, but offered fall term. Evening.
- 123 *Theory of Equations* (3) Johnston
Summer term 1949.
- 125 *Advanced Algebra* (3) Tordella
Evening.
- 126 *Advanced Analytic Geometry* (3) Taylor
Evening.
- 132 *Differential Equations* (3) The Staff
Morning and evening sections. (Also offered 1949 summer term.)
Mathematics 132x—same as Mathematics 132, but offered fall term. Morning and evening sections.
- 134 *Introduction to Boundary Value Problems* Taylor
(3)
Prerequisite: Mathematics 132. Evening.
- †135-36 *Projective Geometry* (2-2) Nelson
(Not offered in 1949-50.)
- 139 *Advanced Calculus* (3) Mears, Nelson
Evening. (Also offered 1949 summer term.)
- 140 *Introduction to Analysis* (3) Nelson
Prerequisite: Mathematics 139. Evening.
- 141 *Introduction to Infinite Series* (3) Mears
Morning.
- 167 *Fourier Series and Spherical Harmonics* (3)
Prerequisite: Mathematics 132. (Not offered in 1949-50.)

* Mathematics 20 is prerequisite to all second-group courses.

- 171 *Vector Analysis* (3) Taylor
 Evening. (Also offered 1949 summer term.)
 Mathematics 171x—same as Mathematics 171, but offered winter term. Morning.

THIRD GROUP

- 202 *Mathematical Logic* (3) Nelson
 Evening.
- 220 *Theory of Numbers* (3)
 (Not offered in 1949-50.)
- †237-38 *Theory of Functions* (3-3) Johnston
 Evening.
- 242 *Infinite Series* (3)
 (Not offered in 1949-50.)
- 249 *Ordinary Differential Equations* (3) Taylor
 Evening.
- 250x *Integral Equations* (3) Weyl
 Evening.
- 255x *Differential Geometry* (3)
 (Not offered in 1949-50.)
- 257 *Theory of Groups* (3)
 (Not offered in 1949-50.)
- †265-66 *Modern Algebra* (3-3) Weyl
 (Not offered in 1949-50.)
- 268 *Calculus of Variations* (3)
 Evening.
- 270 *Tensor Analysis* (3)
 (Not offered in 1949-50.)
- 271 *Riemannian Geometry* (3)
 (Not offered in 1949-50.)
- 277 *Partial Differential Equations* (3)
 (Not offered in 1949-50.)
- 295-96 *Reading and Research* (3-3) The Staff
 Time to be arranged.
- 299-300 *Thesis* (3-3) The Staff

MECHANICAL ENGINEERING

- Arthur Frederick Johnson, M.E., Ph.D., *Professor of Mechanical Engineering*
 Benjamin Carpenter Cruickshanks, B.S. in M.E., *Professor of Mechanical Engineering, Executive Officer*
 Frederick Morris Feiker, B.S. in E.E., D.Eng., *Professor of Engineering Administration*
 George Jaquet, B.S. in E.E., *Professorial Lecturer on Engineering Administration*
 Robert Gay Trumbull, B.S. in C.E., *Associate Professor of Mechanical Engineering*
 Charles Edward Greeley, B.S. in M.E., *Assistant Professor of Mechanical Engineering*
 Otakar Wenceslaus Kabelac, M.C.E., *Assistant Professor of Mechanical Engineering*
 Frederick Henry Kohloss, B.S. in M.E., *Assistant Professor of Mechanical Engineering*
 Rudolph Michel, M.S. in M.E., *Lecturer in Mechanical Engineering*
 Edward Frederick Kelley, M.S., Ac.E., *Lecturer in Mechanical Engineering*
 Bernard Bernstein, B.S., B.M.E., *Lecturer in Mechanical Engineering*
 Luther Bertram Nye, Jr., B.E., *Lecturer in Mechanical Engineering*
 Richard Lee Fenton, B.M.E., *Lecturer in Mechanical Engineering*
 John Brewster Willis, B.S. in M.E., *Lecturer in Mechanical Engineering*
 William Clayton Justice, B.S. in Eng., *Lecturer in Mechanical Engineering*
 Raphael David Cahn, B.M.E., *Lecturer in Mechanical Engineering*
 John Clifford Goff, B.M.E., *Associate in Mechanical Engineering*
 Edward French Davis, M.S., *Associate in Mechanical Engineering*
 Stanley Walter Lange, B.M.E., *Associate in Mechanical Engineering*

Minimum requirements for the major.—See pages 111-12 and 114-15.

FIRST GROUP

- 1 *Engineering Survey and Orientation* (1) Cruickshanks and Staff
 Open to freshmen only. Afternoon and evening sections.
- 3 *Mechanical Drawing* (2) Trumbull and Staff
 Drafting-room fee, \$3. Drafting (6 hours)—afternoon and evening sections.

- 4 *Descriptive Geometry* (2) Trumbull and Staff
Drafting-room fee, \$3. Drafting (6 hours)—afternoon and evening sections.
- 5 *Introductory Naval Architecture* (3)
Nomenclature, functions, and arrangement of hull structure, equipment, and machinery for merchant vessels. Lectures supplemented by visits to shipyards. (Not offered in 1949-50.)
- 7 *Machine Drawing* (2) Trumbull, Goff
Prerequisite: Mechanical Engineering 3 and 4. Drafting-room fee, \$3. Drafting (6 hours)—afternoon and evening sections.
- 8 *Mechanism Drawing* (2) Trumbull, Goff
Prerequisite: Mechanical Engineering 3, 4, and 13. Prerequisite or concurrent registration: Mechanical Engineering 14. Drafting-room fee, \$3. Drafting (6 hours)—afternoon and evening sections.
- 9-10 *Ship Drafting* (2-2)
Fairing of lines; displacement, stability curves, midship section, general arrangements and structural detail plans, machinery details. Prerequisite or concurrent registration: Mechanical Engineering 15. Drafting-room fee, \$3 a term. (Not offered in 1949-50.)
- 13-14 *Mechanism* (2-2) Trumbull and Staff
Prerequisite: Mathematics 19. Prerequisite or concurrent registration: Mathematics 20. Morning and evening sections. (Also offered 1949 summer term.)
- 15-16 *Elementary Ship Calculations* (2-2)
Form characteristics, detailed weights, displacement, transverse and longitudinal equilibrium, launching. Prerequisite: Mechanical Engineering 5. (Not offered in 1949-50.)

SECOND GROUP

- 101-2 *Advanced Ship Calculations* (2-2)
Stabilizing, model basin practice, powering, steering, launching, hull strength, floodability, vibrations. Prerequisite: Mechanical Engineering 16. (Not offered in 1949-50.)
- 103-4 *Ship Design* (2-2)
Prerequisite: Mechanical Engineering 10, 16. Prerequisite or concurrent registration: Mechanical Engineering 117. Drafting-room fee, \$3 a term. (Not offered in 1949-50.)
- 111-12 *Thermodynamics* Cruickshanks, Kohloss, Bernstein
(3-3)
With introductory study of laws of heat transmission. Prerequisite: Mechanical Engineering 14; Physics 8. Prerequisite or concurrent registration: Mathematics 20. Morning and evening sections. (Also offered 1949 summer term.)

- 115-16 Mechanical Laboratory (2-2)** Greeley, Lange
Calibration of instruments; calorimetry; testing of prime movers, auxiliaries, and combustion engines. Eight-hour boiler test required. Prerequisite: Mechanical Engineering 13-14 and 111-12. Prerequisite or concurrent registration: Mechanical Engineering 129. Laboratory fee, \$6 a term. Laboratory (6 hours)—afternoon and evening sections. (Also offered 1949 summer term.)
- 117-18 Marine Engines and Auxiliaries (2-2)**
Details, arrangements and performance of steam uniflow, steam turbine, and Diesel propelling plants. Prerequisite or concurrent registration: Mechanical Engineering 5, 13-14, and 111-12. (Not offered in 1949-50.)
- 126 Methods of Manufacture (2)** Greeley
Fixtures, gauging, tools, costs. Prerequisite: Mechanical Engineering 8 and 14; Civil Engineering 26. Morning and evening sections. (Also offered 1949 summer term.)
- 127-28 Machine Design (2-2)** Johnson, Willis
With stress-analysis lectures. Prerequisite: Mechanical Engineering 112 and 126; Civil Engineering 26, 123, 136, and 141. Drafting-room fee, \$3 a term. Computation and drafting (3 hours)—Saturday morning.
- 129-30 Power Plants (3-3)** Cruickshanks, Justice
Study of design, layout, installation, and operation of power plants and equipment. Prerequisite: Mechanical Engineering 112. Morning and evening sections.
- 131-32 Heating, Ventilating, Air Conditioning, and Refrigeration (2-2)** Kohloss, Nye
Prerequisite: Mechanical Engineering 112. Morning and evening sections. (Also offered 1949 summer term.)
- 133 Combustion Engines (2)** Greeley
Prerequisite: Mechanical Engineering 112; Civil Engineering 123 and 136; Electrical Engineering 10. Morning and evening sections. (Also offered 1949 summer term.)
- 139 Fluid Dynamics (3)** Johnson, Kelley, Kabelac
The theories of hydro- and aero-mechanics as influenced by density, viscosity, and turbulence. Prerequisite: Mechanical Engineering 112; Civil Engineering 140. Morning and evening sections. (Also offered 1949 summer term.)
- 140 Dynamics of Machinery (3)** Johnson, Michel, Kabelac
Inertia effects, balancing, vibration phenomena. Prerequisite: Mechanical Engineering 115; Civil Engineering 123 and 136. Morning and evening sections. (Also offered 1949 summer term.)
- 141-42 Management Problems (2-2)** Feiker
Organization of an industrial enterprise; the handling and training of men. Prerequisite: Economics 1-2. Morning and evening sections.

- 145 *Production Control and Planning* (2) Jaquet
Scope of production controls, product analysis, planning and routing systems and methods. Prerequisite: Mechanical Engineering 141-42. Evening.
- 146 *Engineering Patent Procedure* (2) _____
Nature and purpose of patents, procedures for preparing and filing patent applications, trade marks and design patents, employer-employee relations. Prerequisite: Mechanical Engineering 141-42. Evening.
- 147 *Industrial Labor Relations* (2) _____
Prerequisite: Mechanical Engineering 141-42. Time to be arranged.
- 189-90 *Proseminar in Mechanical Engineering* (1-1) Johnson
Saturday morning. (Also offered 1949 summer term.)

MEDICINE

- Walter Andrew Bloedorn, A.M., M.D., Sc.D., *Professor of Medicine*
 Thomas McPherson Brown, A.B., M.D., *Professor of Medicine, Executive Officer*
 Charles Robert Lee Halley, A.B., M.D., *Clinical Professor of Medicine*
 Paul Frederick Dickens, M.D., *Clinical Professor of Medicine*
 Harry Filmore Dowling, A.B., M.D., *Clinical Professor of Medicine*
 Benjamin Frank Miller, B.S., Chem. Eng., M.D., *Clinical Professor of Medicine*
 Sol Katz, B.S., M.D., *Adjunct Clinical Professor of Medicine*
 Harry Eagle, A.B., M.D., *Adjunct Clinical Professor of Medicine*
 Louis Katz Alpert, B.S., M.D., *Adjunct Clinical Professor of Medicine*
 Joseph Francis Sadusk, Jr., A.B., M.D., *Adjunct Clinical Professor of Medicine*
 Joseph Francis Fazekas, B.S., M.D., *Adjunct Clinical Professor of Medicine*
 Clark Harvey Yeager, M.D., Dr.P.H., *Professorial Lecturer on Tropical Medicine*
 Norman Hawkins Topping, A.B., M.D., *Professorial Lecturer on Rickettsial Diseases*
 Monroe James Romansky, A.B., M.D., *Associate Professor of Medicine*
 Clayton Bernard Ethridge, M.D., *Associate Clinical Professor of Medicine*
 Peter Diacoumis Comanduras, M.D., M.S., *Associate Clinical Professor of Medicine*
 Walter Kendall Myers, B.S., M.D., *Assistant Clinical Professor of Medicine*
 John Alton Reed, A.B., M.D., *Assistant Clinical Professor of Medicine*
 Theodore Judson Abernethy, B.S., M.D., *Assistant Clinical Professor of Medicine*
 William Travis Gibb, Jr., A.B., M.D., *Assistant Clinical Professor of Medicine*
 John McCallum Evans, A.B., M.D., *Assistant Clinical Professor of Medicine*
 Roy Hertz, Ph.D., M.D., *Assistant Clinical Professor of Medicine*
 Carl Leonard Larson, B.S., M.D., *Assistant Clinical Professor of Medicine*
 Carl Calvin Dauer, A.B., M.D., M.P.H., *Assistant Clinical Professor of Medicine*
 Samuel Ross Taggart, M.D., *Assistant Clinical Professor of Medicine*

Alfred Henry Lawton, M.D., Ph.D., *Assistant Clinical Professor of Medicine*

John Minor, A.B., M.D., *Associate in Medicine*

Watson William Eldridge, Jr., M.D., *Associate in Medicine*

Maurice Protas, A.B., M.D., *Associate in Medicine*

Pearl Holly, M.S., M.D., *Associate in Medicine*

Benjamin Manchester, M.D., *Associate in Medicine*

Irving Wolfe Winik, M.D., *Associate in Medicine*

Lawrence Jay Thomas, B.S., M.D., *Associate in Medicine*

James Joseph Feffer, A.B., M.D., *Associate in Medicine*

Lawrence Elias Putnam, A.B., M.D., *Associate in Medicine*

John Watkins Trenis, A.B., M.D., *Associate in Medicine*

Bernard Lauriston Hardin, Jr., A.B., M.D., *Associate in Medicine*

Clarence Richard Hartman, A.B., M.D., *Associate in Medicine*

Andrew Gabriel Prandoni, B.S., M.D., *Associate in Medicine*

Charles William Ordman, A.B., M.D., *Associate in Medicine*

Ruth Hechler Wichelhausen, M.D., *Associate in Medicine*

Eugene Pitcher Cronkite, A.B., M.D., *Associate in Medicine*

Albert David Kistin, A.M., M.D., *Associate in Medicine*

Benjamin Calloway Jones, Jr., M.D., *Associate in Medicine*

James Irving Boyd, M.D., *Lecturer in Medicine*

Richard Bernard Castell, A.B., M.D., *Clinical Instructor in Medicine*

Luther Henry Snyder, A.B., M.D., *Clinical Instructor in Medicine*

Emil Herbert Bauersfeld, A.B., M.D., *Clinical Instructor in Medicine*

John Bayne Marbury, M.D., *Clinical Instructor in Medicine*

Louis Ross, M.D., *Clinical Instructor in Medicine*

James Theodore Burns, M.D., *Clinical Instructor in Medicine*

Frederic Dunbar Chapman, A.B., M.D., C.M., *Clinical Instructor in Medicine*

Irvin Kerlan, B.S., M.D., C.P.H., *Clinical Instructor in Medicine*

Virginia Patterson Beelar, A.B., M.D., *Clinical Instructor in Medicine*

Myer Harold Stolar, B.S., M.D., *Clinical Instructor in Medicine*

Alfred Brigulio, M.D., *Clinical Instructor in Medicine*

Lester Sylvan Blumenthal, A.B., M.D., M.S. in Med., *Clinical Instructor in Medicine*

Samuel Jacob Nathan Sugar, Ph.D., M.D., *Clinical Instructor in Medicine*

Joseph Ney, B.S., M.D., *Clinical Instructor in Medicine*

Charles Edward Law, M.D., *Clinical Instructor in Medicine*

Henry Dunlop Ecker, B.S., M.D., *Clinical Instructor in Medicine*

John Wilmer Latimer, Jr., M.D., *Clinical Instructor in Medicine*

Mark Hummer Lepper, M.D., *Clinical Instructor in Medicine*

Charles Wilson Jones, A.B., M.D., *Clinical Instructor in Medicine*

Halla Brown, M.D., *Clinical Instructor in Medicine*

Frank Solomon Bacon, B.S., M.D., *Clinical Instructor in Medicine*
 Joseph Beinstein, A.B., M.D., *Clinical Instructor in Medicine*
 DeWitt Elmer DeLawter, M.D., *Clinical Instructor in Medicine*
 William Frank, M.D., *Clinical Instructor in Medicine*
 Stanley William Kirstein, M.D., *Clinical Instructor in Medicine*
 Ralph Bretney Miller, M.D., *Clinical Instructor in Medicine*
 Alvin Victor Rouzer, B.S., M.D., *Clinical Instructor in Medicine*
 Raymond Schwartz, A.B., M.D., *Clinical Instructor in Medicine*
 Robert George Taylor, M.D., *Clinical Instructor in Medicine*
 Charles Waters Thompson, M.D., *Clinical Instructor in Medicine*
 Thomas Stone Sappington, A.B., M.D., *Clinical Instructor in Medicine*
 James Walling Long, M.D., *Clinical Instructor in Medicine*
 Maurice Franks, M.D., *Clinical Instructor in Medicine*
 Israel Kessler, M.S., M.D., *Clinical Instructor in Medicine*
 Jack Jacob Rheingold, A.B., M.D., *Clinical Instructor in Medicine*
 Francis James Murray, A.B., M.D., *Clinical Instructor in Medicine*
 Robert Lee Brickhouse, B.S., M.D., *Clinical Instructor in Medicine*
 Morris Hirsh Rosenberg, A.B., M.D., *Clinical Instructor in Medicine*
 Hyman Joseph Zimmerman, A.B., M.D., *Clinical Instructor in Medicine*
 Maurice Mensh, M.D., *Clinical Instructor in Medicine*
 Robert Norwood Coale, B.S., M.D., *Clinical Instructor in Medicine*
 Harry Clark Bates, B.S., M.D., *Clinical Instructor in Medicine*
 James Francis Ambury, B.S., M.D., *Clinical Instructor in Medicine*
 William Otis Bailey, Jr., M.D., *Clinical Instructor in Medicine*
 Edwin Pearson Parker III, B.S., M.D., *Clinical Instructor in Medicine*
 Thomas Joseph Pekin, M.D., *Clinical Instructor in Medicine*
 Andrew Joseph Brennan, M.D., *Clinical Instructor in Medicine*
 Eugene Solomon Gladsden, B.S., M.D., *Clinical Instructor in Medicine*
 Jeanne Cecile Bateman, A.B., M.D., *Clinical Instructor in Medicine*

132 *History of Medicine*
 One hour a week.

The Staff

236 *Clinical Microscopy*

Conferences and studies in the clinical application of laboratory examinations of blood, body fluids, exudates, and excreta. Three hours a week.

The Staff

241-42 *Physical Diagnosis*

Demonstration and practical application of the principles of physical diagnosis and the interpretation of findings in the normal and abnormal subject. Six hours a week.

The Staff

243-44 *Introduction to Medicine*

Lectures covering the principles of internal medicine preparatory to clinical studies and training on the inpatient and outpatient services. One hour a week, fall term; four hours a week, winter term.

The Staff

- 320 *Medical Jurisprudence* The Staff
Lectures on the legal and ethical rights of physicians, and on the legal problems with which the physician comes in contact. One hour a week for sixteen weeks.
- 325-26 *Clinical Clerkship* The Staff
Training with bed patients under individual instruction designed to develop ability in examination of patients and case taking as well as practice in clinical microscopy. Eight weeks.
- 327-28 *Clinical Pathological Conferences I* Brown, Choisser
Required in the third year. Correlation of clinical and post-mortem findings: detailed case description from the clinical point of view followed by demonstrations of post-mortem findings. One hour a week.
- 339-40 *Therapeutic Conferences I* Staff of Medicine and Pharmacology
Conferences designed to emphasize the application of pharmacological principles to the problems of clinical medicine. One hour a week.
- 349-50 *Medical Conferences* The Staff
Three hours a week.
- 421-22 *Outpatient Clinics* The Staff
Individual case studies under personal supervision of the Staff. Daily clinics on current medical problems and seminars stressing physiological aspects of diseases. Individual examinations and instruction in medical specialties. University and Emergency hospitals.
- 427-28 *Clinical Pathological Conferences II* Brown, Choisser
Required in the fourth year. Continuation of 327-28. One hour a week, in rotation.
- 439-40 *Therapeutic Conferences II* Staff of Medicine and Pharmacology
Continuation of 339-40. One hour a week.

MILITARY SCIENCE AND TACTICS*

Vernon David Pettit, B.S., M.D., Lieutenant Colonel, Medical Corps,
United States Army, Professor of Military Science and Tactics,
Executive Officer

129-30 Basic Course, Senior Division ROTC (First Year)

Pettit

World situation, national defense, and ROTC (3); military obligations of citizenship (1); organization of the Army (10); organization of the Medical Department (5); courtesies and customs of the Service (2); military law (4); military training (2); medical military history (1); military administration (3); examination and discussion (1).

247-48 Basic Course, Senior Division ROTC (Second Year)

Pettit

World situation, national defense, and ROTC (3); organization and employment of medical service of field army (5); duties of the surgeon (3); medical service, zone of communications (3); medical service, zone of interior (3); medical supply (3); introduction to map reading (4); health and national security (2); first aid, bandaging, and splinting (5); examination and discussion (1).

329-30 Advanced Course, Senior Division ROTC ‡ (First Year)

Pettit

World situation, national defense, and ROTC (3); military preventive medicine (20); field medicine and surgery (6); army graduate professional education program (1); army career (1); examination and discussion (1).

429-30 Advanced Course, Senior Division ROTC ‡ (Second Year)

Pettit

World situation, national defense, and ROTC (3); military preventive medicine (11); medical aspects of atomic warfare (2); medical aspects of chemical warfare (2); military psychiatry (5); personnel management (3); military medical research development (3); organized reserve corps (1); mobilization (1); examination and discussion (1).

* Figures in parenthesis indicate the number of hours devoted to the subject.

‡ Students in the advanced course are selected from those who satisfactorily complete the basic course, or have one year active federal service.

NEUROLOGY AND NEUROLOGICAL SURGERY

Walter Freeman, Ph.D., M.D., *Professor of Neurology, Executive Officer*

James Winston Watts, B.S., M.D., *Professor of Neurological Surgery*

Hyman David Shapiro, M.D., *Assistant Clinical Professor of Neurology*

Robert Henry Groh, B.S., M.D., *Associate in Neurology*

Paul Chodoff, A.B., M.D., *Associate in Neurology*

James Peter Murphy, B.S., M.D., *Associate in Neurological Surgery*

George Davis Weickhardt, M.D., *Clinical Instructor in Neurology*

Hugo Victor Rizzoli, A.B., M.D., *Clinical Instructor in Neurological Surgery*

Jonathan Marshall Williams, M.D., *Clinical Instructor in Neurological Surgery*

Oscar Legault, A.B., M.D., *Clinical Instructor in Neurology*

249-50 *Neurology (elective)*

Freeman

Methods of study of the nervous system. Gross and microscopic preparations, embryology, comparative anatomy, stimulation and extirpation, human pathology, etc. Laboratory demonstrations. One hour a week.

331 *Neurology*

Shapiro and Staff

Systematic lectures with lantern slides, illustrating the chief neurologic syndromes and their anatomic bases. One hour a week.

333-34 *Neurology and Neurological Surgery, Clinical Clerkship*

Freeman and Staff

Instruction in history, physical examination, ordinary clinical procedures. Attendance at neurological operations. Gallinger Hospital. Four students in rotation, two weeks.

335-36 *Neurological Conference*

Freeman and Staff

Clinical conference one afternoon a week followed by clinicopathologic study of specimens from current necropsies. Gallinger Hospital. Two and one-half hours a week.

431-32 *Neurology Clinic*

Freeman and Staff

Neurological outpatient clinic. Consultation of staff on ambulatory cases, demonstration of diagnostic procedures, disposition of neuro-psychiatric cases. Discussion of neuropathologic material. University Hospital. Two hours a week.

433-34 *Neurosurgery*

Watts and Staff

Clinical demonstrations in surgery of the brain, spinal cord, and peripheral nerves. Emphasis is laid upon fundamentals and upon the possibilities of surgery in the relief of symptoms. University and Gallinger hospitals. Section of four students, two hours a week.

OBSTETRICS AND GYNECOLOGY

- John Parks, M.S., M.D., *Professor of Obstetrics and Gynecology, Executive Officer*
- Radford Brown, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Jacob Kotz, M.D., *Clinical Professor of Obstetrics and Gynecology*
- Henry Lauran Darner, A.B., M.D., *Clinical Professor of Obstetrics and Gynecology*
- Herbert Percy Ramsey, A.B., M.D., *Clinical Professor of Obstetrics and Gynecology*
- Robert Henry Barter, M.D., *Adjunct Clinical Professor of Obstetrics and Gynecology*
- George Nordlinger, A.B., M.D., *Associate in Obstetrics and Gynecology*
- Laurence Lee Cockerille, M.D., *Associate in Obstetrics and Gynecology*
- Clayton Howard Hixson, M.D., *Associate in Obstetrics and Gynecology*
- Henry John Russell McNitt, B.S. in Med., M.D., *Associate in Obstetrics and Gynecology*
- Samuel Mayer Dodek, A.M., M.D., *Associate in Obstetrics and Gynecology*
- Russel Jon Jansen, M.D., *Associate in Obstetrics and Gynecology*
- Howard Pope Parker, A.B., M.D., *Associate in Obstetrics and Gynecology*
- Roger O'Donnell, Jr., A.B., M.D., *Associate in Obstetrics and Gynecology*
- James Albert Dusbabek, M.D., *Associate in Obstetrics and Gynecology*
- Barton Winters Richwine, M.D., *Associate in Obstetrics and Gynecology*
- Clarence Kendall Fraser, Ph.B., M.D., *Associate in Obstetrics and Gynecology*
- Neel Jack Price, B.S., M.D., *Instructor in Obstetrics and Gynecology*
- Katherine Elizabeth Parker, A.M., M.D., *Clinical Instructor in Obstetrics and Gynecology*
- William Dandridge Terrell, Jr., M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Samuel Hazen Shea, M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Julius Robert Epstein, M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Morton Selwyn Kaufman, A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
- Floyd Sterling Rogers, M.D., *Clinical Instructor in Obstetrics and Gynecology*

- Rufus Martin Roll, A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Caroline Jackson, A.M., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Jeremiah Keith Cromer, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Jed Williams Pearson, Jr., A.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Thomas Miles Leonard, Ph.B., M.D., *Clinical Instructor in Obstetrics and Gynecology*
 William Thurston Lady, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Albert Seymour Bright, M.D., *Clinical Instructor in Obstetrics and Gynecology*
 Shirley Sue Martin, M.D., *Clinical Instructor in Obstetrics and Gynecology*

54 *Normal Obstetrics*

Fraser, Dodek

Lectures and demonstrations on the physiology and management of normal pregnancy. One hour a week.

337-38 *Abnormal Obstetrics*

Nordlinger, Parks

Lectures and demonstrations on the complications of pregnancy. One hour a week.

343 *Gynecology*

Brown

Lectures and demonstrations on the principles of gynecology. One hour a week.

344 *Marriage and Marital Problems*

Ramsey, Nordlinger

A course of instruction in marriage counseling and planned parenthood. One hour a week.

348 *Female Endocrinology and Operative Gynecology*

Kotz, Darner

Lectures on the physiology and pathology of the female endocrine system and on principles of gynecological surgery. One hour a week.

401-2 *Manikin Demonstrations*

Lady

The mechanism of labor and various types of operative delivery demonstrated to sections of the class in weekly sessions.

441-42 *Clinical Obstetrics*

Parks and Staff

Senior students participate in prenatal and postnatal clinic care; make postpartum home calls; observe the course of labor and deliver patients under supervision; attend biweekly departmental conferences and daily ward rounds in the University, Gallinger, and Garfield hospitals.

443-44 *Clinical Gynecology*

Parks and Staff

Senior students observe and participate in the gynecological work of clinics, operating rooms, and gynecological services of the University and Gallinger hospitals.

OPHTHALMOLOGY

Ernest Alfred Watson Sheppard, M.D., C.M., *Professor of Ophthalmology, Executive Officer*

Ronald Armore Cox, A.B., M.D., *Assistant Clinical Professor of Ophthalmology*

Frank Duncan Costenbader, B.S., M.D., *Assistant Clinical Professor of Ophthalmology*

Richard Wallace Wilkinson, M.S., M.D., *Associate in Ophthalmology*

Sterling Bockoven, M.D., *Associate in Ophthalmology*

Walter Joseph Romejko, M.D., *Clinical Instructor in Ophthalmology*

Carmon Robert Naples, B.S., M.D., *Clinical Instructor in Ophthalmology*

Micollius Noel Stow, M.D., D.M.S., *Clinical Instructor in Ophthalmology*

James Spencer Dryden, M.D., *Clinical Instructor in Ophthalmology*

William Paxson Chalfant, Jr., M.D., *Clinical Instructor in Ophthalmology*

William Joseph Graham Davis, A.B., M.D., *Clinical Instructor in Ophthalmology*

William Henry Hanna, A.B., M.D., *Clinical Instructor in Ophthalmology*

351-52 *Ophthalmology*

The Staff

A lecture course presenting the principles of ophthalmology, with special reference to topics of importance to the general practitioner. One hour a week for sixteen weeks.

447 *Clinic*

The Staff

Intensive training in diseases of the eye; etiology, diagnosis, and treatment in their application to clinical cases. University Hospital. Three hours twice a week.

OTO-RHINO-LARYNGOLOGY

- Daniel Bruce Moffett, A.B., M.D., *Professor of Oto-rhino-laryngology, Executive Officer*
 William Herndon Jenkins, M.D., *Clinical Professor of Oto-rhino-laryngology*
 Leroy Lee Sawyer, Jr., A.B., M.D., *Assistant Clinical Professor of Oto-rhino-laryngology*
 David Davis, A.B., M.D., *Associate in Oto-rhino-laryngology*
 Aubrey David Fischer, M.D., *Associate in Oto-rhino-laryngology*
 Joel Norton Novick, M.S., M.D., *Clinical Instructor in Oto-rhino-laryngology*
 John Gordon Bell, M.D., *Clinical Instructor in Oto-rhino-laryngology*
 Catharine Birch, A.B., M.D., *Clinical Instructor in Oto-rhino-laryngology*
 Homer King Vann, A.B., M.D., *Clinical Instructor in Oto-rhino-laryngology*
 James Jerry McFarland, Jr., B.S., M.D., *Clinical Instructor in Oto-rhino-laryngology*

- 451 *Oto-rhino-laryngology* Moffett, Jenkins
 Lectures and demonstrations on anatomy, physiology, and diseases of the ear, nose, and throat. One hour a week.
- 454 *Bronchoscopy* Davis
 A series of lectures on the fundamental principles and the use of instruments, including both the bronchoscope and esophagoscope. One hour a week for two weeks.
- 456 *Clinic* The Staff
 Practical clinical instruction in the diagnosis and treatment of diseases of the ear, nose, and throat. University Hospital. One and one-half hours twice a week.

PATHOLOGY

Roger Morrison Choisser, B.S., M.D., *Professor of Pathology, Executive Officer*

Thomas Martin Peery, A.B., M.D., *Associate Professor of Pathology*

Carl Hunt Wells, B.S., M.D., *Associate Professor of Pathology*

Robert Pelley Hill, B.S., M.D., *Assistant Professor of Pathology*

William John Schewe, A.B., B.S. in Med., M.D., *Instructor in Pathology*

SEMINAR LECTURERS

Elson Bowman Helwig, B.S., M.D., *Professorial Lecturer in Pathology*

Hans Frank Smetana, M.D., *Professorial Lecturer in Pathology*

Henry Rappaport, M.D., *Professorial Lecturer in Pathology*

James Earle Ash, Jr., M.D., *Professorial Lecturer in Pathology*

259-60 *Pathology*

Choisser and Staff

Malformations, inflammations, degenerations, and neoplasms; special pathology of the organs and specific diseases. The laboratory work consists of the gross and microscopic study of diseased tissues. Necropsies are held regularly at the University and Gallinger hospitals.

307 *Necropsy (elective)*

The Staff

Students assist in the performance of necropsies. Fresh gross specimens and microscopic sections from each case are presented at weekly conferences. Current literature relating to cases is reviewed and presented by the students.

327-28 *Clinical Pathological Conference*

Choisser, Brown

Required in the third and fourth years. Case histories are presented and discussed by members of the staff and student body; necropsy and clinical findings are compared, and gross and microscopic specimens examined. One hour a week.

460 *Research*

Hours and credits to be arranged.

Choisser

PEDIATRICS

Preston Alexander McLendon, B.S., M.D., *Professor of Pediatrics, Executive Officer*

Margaret Mary Nicholson, A.B., M.D., *Clinical Professor of Pediatrics*

Edward Lewis, M.D., *Clinical Professor of Pediatrics*

William Staton Anderson, A.B., M.D., *Clinical Professor of Pediatrics*

Lewis Kaigler Sweet, A.B., M.D., *Adjunct Clinical Professor of Pediatrics*

Mabel Harlakenden Grosvenor, A.B., M.D., *Assistant Clinical Professor of Pediatrics*

John Augustine Washington, A.B., B.S., M.D., *Assistant Clinical Professor of Pediatrics*

Aaron Nimetz, A.B., M.D., *Assistant Clinical Professor of Pediatrics*

Dorothy Steinle Jaeger-Lee, M.D., *Assistant Clinical Professor of Pediatrics*

George Maksim, M.D., M.S. in Ped., *Assistant Clinical Professor of Pediatrics*

Reginald Spencer Lourie, M.D., *Associate in Pediatrics*

Henry Marcus Work, A.B., M.D., *Associate in Pediatrics*

John Howell Peacock, B.S., M.D., *Clinical Instructor in Pediatrics*

Herbert Harold Diamond, M.D., *Clinical Instructor in Pediatrics*

Frederic Gerard Burke, B.S., M.D., *Clinical Instructor in Pediatrics*

Reginald Henry Mitchell, M.D., *Clinical Instructor in Pediatrics*

Maynard Irving Cohen, A.B., M.D., *Clinical Instructor in Pediatrics*

William Allen Howard, A.B., M.D., *Clinical Instructor in Pediatrics*

Mary Katherine Laurence Sartwell, A.B., M.D., *Clinical Instructor in Pediatrics*

Sidney Ross, M.D., *Clinical Instructor in Pediatrics*

Charles Frederick Stiegler, A.B., M.D., *Clinical Instructor in Pediatrics*

255-56 *Pediatrics*

McLendon and Staff

Lectures on physiology of the newborn, development, infant nutrition, diseases of the newborn, common anomalies and system illnesses of childhood. Gallinger Municipal Hospital. One hour weekly.

357-58 *Clinical Clerkship—General Pediatrics*

Nicholson and Staff

General pediatric diseases and the newborn. Emphasis on history taking and physical examination. Daily ward rounds. Gallinger Municipal Hospital. Five students in rotation, two weeks.

- 359-60 *Clinical Clerkship—Contagious Diseases* Grosvenor and Staff
Preventive and quarantine measures. Daily ward rounds and conferences. Gallinger Municipal Hospital. Five students in rotation, two weeks.
- 361-62 *Clinical Conference* McLendon and Staff
Required in third year. Presentation and discussion of current patient problems. Gallinger Municipal Hospital. One hour weekly.
- 457-58 *Clinical Clerkship* McLendon and Staff
Full time including assignment to night and holiday admissions. Case studies on wards under direct Resident supervision. Ward rounds with Staff and Residents. Childrens Hospital. Ten students, four weeks.
- 459-60 *Outpatient Clinics* Washington and Staff
Work in Medical and Specialty clinics including surgery, allergy, X-ray, child welfare, cardiology, dermatology, neurology, and child guidance. Childrens Hospital.
- 461-62 *Clinico-pathological Conference* McLendon and Staff
Clinical and pathological discussion of recent patient history and laboratory data. Childrens Hospital.
- 463-64 *Group Conferences* McLendon and Staff
Discussion of clinical problems of diagnosis and treatment of current patients. Childrens Hospital. Twice weekly.

PHARMACOLOGY

Paul Kenneth Smith, Ph.D., *Professor of Pharmacology, Executive Officer*

Erwin Ellis Nelson, M.D., Ph.D., *Adjunct Clinical Professor of Pharmacology*

Aldo Peter Truant, A.B., *Instructor in Pharmacology*

Celia White Tabor, A.B., M.D., *Research Associate in Pharmacology*

Zelma Baker Miller, B.S., Ph.D., *Research Associate in Pharmacology*

Jean Mayer, Ph.D., *Research Associate in Pharmacology*

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| 261 | Pharmacology
Lectures and conferences concerning the interaction of drugs and biological systems as a basis for the rational therapy of disease. Five hours a week. | The Staff |
| 263 | Pharmacology Laboratory
Laboratory instruction and demonstrations designed to complement the above course. Five hours a week. | The Staff |
| 265 | Chemotherapy
Five lectures a week for three weeks. Designed for graduate students. | The Staff |
| 361-62 | Pharmacological Research
Primarily for those properly qualified graduate and medical students seeking careers in pharmacology. Hours and credits to be arranged. | The Staff |
| 363-64 | Pharmacology Seminar (I-I)
Recent advances in pharmacology. For those interested in pharmacological research. Two hours a week. | The Staff |
| 369-70 | Clinical Pharmacology
Discussions of the pharmacological basis of therapeutics. One hour a week. | The Staff |
| 479-80 | Special Methods in Research
A course to familiarize the student with advanced chemical and physiological methods employed in pharmacological investigations. Hours and credits to be arranged. | The Staff |

PHARMACY

- Charles Watson Bliven, M.S., *Professor of Pharmacy, Executive Officer*
William Paul Briggs, M.S., Sc.D., *Professorial Lecturer in Pharmacy*
Jane Gass, M.S., *Assistant Professor of Pharmacology and Pharmacognosy*
John Watson Schermerhorn, B.S. in Phar., *Assistant Professor of Pharmaceutical Chemistry*
Carson Gray Frailey, A.B., LL.B., *Lecturer on Pharmaceutical Law*
Harold Jerome Bobys, A.B., *Lecturer on Pharmaceutical Administration*
Arthur William Jones, Phar.G., *Instructor in Pharmacy*
David Lucian Rice, B.S. in Phar., *Instructor in Hospital Pharmacy*
Carmel Miriam Snow, B.S. in Phar., *Instructor in Hospital Pharmacy*

SEMINAR LECTURERS

- James Johnson Durrett, M.S., Phar.G., M.D., *Professorial Lecturer on Drug Control Problems*
Carson Peter Frailey, Phar.D., Sc.D., *Professorial Lecturer on Industrial Pharmacy*
Frederick John Cullen, Phar.G., M.D., *Professorial Lecturer on Drug Manufacture*
James Albert Horton, LL.B., *Professorial Lecturer on Drug Trade Regulations*
John Christian Krantz, Jr., Ph.D., *Professorial Lecturer on Pharmaceutical Research*
Justin Lawrence Powers, Ph.D., *Professorial Lecturer on Official Drug Standards*
Robert Lee Swain, Phar.D., LL.B., *Professorial Lecturer on Contemporary Pharmacy*
George Potter Larrick, *Professorial Lecturer on Drug Control*
Robert Philip Fischelis, B.S., Phar.D., Sc.D., *Professorial Lecturer on Pharmaceutical Organizations*

Minimum requirements for the degrees.—See pages 120–23.

FIRST GROUP

- I *Orientation in Pharmacy* (1) Bliven
A general survey of the field of pharmacy; organizations in the health professions; official compendia. Morning.

- 21-22 *General Pharmacy* (5-5) Bliven, Schermerhorn, Jones
Essential pharmaceutical processes; the theory and manufacture of pharmacopoeial and formulary galenical and inorganic chemical preparations; the pharmaceutical usage of certain classes of substances and preparations. Laboratory fee, \$12 a term. Lecture (3 hours)—morning; laboratory (6 hours)—afternoon.
- 23 *Pharmacognosy* (3) Gass
Macroscopic and microscopic. Prerequisite: Botany 1. Laboratory fee, \$7. Lecture (2 hours)—afternoon; laboratory (3 hours)—afternoon.
- 24 *History, Literature, and Ethics of Pharmacy* Briggs
(1)
The development of the profession of pharmacy and the literature of pharmacy. Morning.
- 25 *Pharmaceutical Calculations* (3) Bliven
The system of weights and measures and their application in the practice of pharmacy. Morning.

SECOND GROUP

- 102 *Dispensing Pharmacy* (4) Briggs and Assistant
Compounding of typical prescriptions and a study of incompatibilities. Prerequisite: Pharmacy 22; concurrent registration: Pharmacy 110. Laboratory fee, \$12. Lecture (2 hours)—afternoon; laboratory (6 hours)—afternoon.
- 103 *Dispensing Pharmacy* (4) Briggs and Assistant
Continuation of Pharmacy 102. Laboratory fee, \$12. Lecture (2 hours); laboratory (6 hours)—afternoon.
- 105-6 *Pharmacology I* (2-2) Gass
The general principles of pharmacology; locally acting drugs; chemotherapeutic agents; antibiotics; antianemia drugs; endocrine drugs; vitamins. Prerequisite or concurrent registration: Physiology 115. Morning.
- 107 *Pharmacy Accounting* (3) Bobys
The financial records required in the operation of a pharmacy. Morning.
- 110 *Chemistry and Pharmacy of Medicinals* Schermerhorn
(3)
A survey of the structural relationships, action, and uses of medicinals. Prerequisite or concurrent registration: Chemistry 152. Morning.
- 111 *Chemistry and Pharmacy of Medicinals* Schermerhorn
(3)
A continuation of Pharmacy 110, including laboratory work on chemical properties of medicinals and on the assay of certain classes of drugs. Laboratory fee, \$12. Lecture (2 hours)—morning; laboratory (3 hours)—afternoon.

- 151 *Advanced Pharmacognosy I* (3) Gass
Microscopic. Prerequisite: Pharmacy 23. Laboratory fee, \$12. Time to be arranged.
- 165-66 *Pharmacology II* (3-3) Gass
Drugs acting on the central nervous system, the autonomic nervous system, and on specific tissues; toxicology; diagnostic drugs; biological assays. Prerequisite: Physiology 115 and 117; Pharmacy 106. Pharmacy 166, laboratory fee, \$12. Fall term: morning. Winter term: lecture (2 hours)—morning; laboratory (3 hours)—afternoon.
- 167-68 *Pharmacology III* (3-3) Gass
Laboratory work in pharmacological technique. Prerequisite: Pharmacy 106. Prerequisite or concurrent registration: Pharmacy 165. Laboratory fee, \$12 a term. Time to be arranged.
- 172 *Advanced Dispensing Pharmacy* (2) _____
The equipment and management of professional pharmacies and advanced dispensing. Prerequisite: Pharmacy 103. Laboratory fee, \$12. Time to be arranged.
- 173 *Quantitative Pharmaceutical Analysis* (3) Schermerhorn, Bliven
Drug analysis. Prerequisite: Chemistry 22. Laboratory fee, \$12. Lecture (1 hour); laboratory (6 hours). Time to be arranged.
- 176 *Pharmaceutical Law* (2) C. G. Frailey
Morning.
- 178 *Pharmacy Management* (3) _____
Policies and operations relating to the management of a pharmacy. Morning.
- 181 *Advanced Pharmacology I* (2) _____
Special problems in the field of pharmacology. Prerequisite or concurrent registration: Pharmacy 166. Time to be arranged.
- 188 *Survey (no credit)* The Staff
A symposium covering the various phases of pharmacy. Morning.
- 192 *Hospital Pharmacy* (2) Rice, Snow
Organization and function of hospitals; organization and operation of a hospital pharmacy; professional and sickroom supplies; prescription practice in the University Hospital pharmacy. Prerequisite: Pharmacy 103. Lecture (1 hour)—morning; laboratory (3 hours)—time to be arranged.
- 194 *Manufacturing Pharmacy* (3) Rice, Snow
The manufacture of bulk pharmaceuticals in the University Hospital pharmacy. Elective for seniors. Lecture (1 hour)—afternoon; laboratory (6 hours)—time to be arranged.

THIRD GROUP*

- 201-2 *Survey of Pharmaceutical Literature* (1-1)
Assigned library research on the development of pharmaceutical literature.
- 213-14 *Advanced Pharmacognosy II* (2-2)
Study of vegetable drugs, spices, and foods with special reference to identification and detection of adulteration. Laboratory fee, \$6 a term.
- 215-16 *Advanced Pharmacology II* (3-3)
Special studies on biological assay methods. Laboratory fee, \$11 a term.
- 222 *Pharmaceutical Chemistry* (2)
A study of drugs by therapeutic classes; relationship of structure and action.
- 224 *Pharmaceutical Chemistry* (2)
The preparation of official and nonofficial chemical drugs. Laboratory fee, \$12.
- 227 *Food and Drug Analysis* (4)
A study of the composition of some common foods and food products. Laboratory fee, \$12.
- 231 *Pharmacology of Anesthetic Drugs* (4)
Theoretical consideration of the principles of anesthesiology and laboratory study of the action of anesthetic drugs. Laboratory fee, \$12.
- 234 *Pharmacology of Autonomic Drugs* (4)
A study of action and interaction of drugs principally influencing the autonomic nervous system. Laboratory fee, \$12.
- 236 *Experimental Toxicology* (4)
Pharmacological action of toxic drugs correlated with chemical and pathological studies. Laboratory fee, \$11.
- 251-52 *Graduate Seminar* (1-1).
Current problems and trends in pharmacy.
- 295-96 *Research* (arr.)
Investigations of special problems in the major field of study. Credits and fees to be arranged.
- 299-300 *Thesis* (3-3)
Laboratory fee, \$14 a term.

* The graduate courses, which are listed in the third group, will not be offered until September 1950.

PHILOSOPHY

Charles Edward Gauss, Mus.B., Ph.D., *Elton Professor of Philosophy,*
Executive Officer

Mary Carman Rose, A.M., *Instructor in Philosophy*

The major in Philosophy (Field-of-Study).—The major provides an opportunity for the student to become acquainted with the history and fields of philosophy and with the methods of philosophical analysis. For details see the pamphlet, which is available in the Office of the Dean of Columbian College, or consult the Executive Officer of the Department.

FIRST GROUP

- 51-52 *Introduction to Philosophy (3-3)* The Staff
 A critical introduction to the problems of modern philosophy in relation to scientific and social developments since the Renaissance. Morning and evening sections. (Also offered 1949 summer term.)
 Philosophy 51x—same as Philosophy 51, but offered winter term. Morning.

SECOND GROUP

- 111-12 *History of Philosophy (3-3)* Rose
 History of western philosophy from Thales to Kant. Evening. (Also offered 1949 summer term.)
- 113 *History of Nineteenth and Twentieth Century Philosophy (3)* Gauss
 Continuation of Philosophy 111-12. Prerequisite: Philosophy 111-12. Morning.
- 121-22 *Logic and Scientific Method (3-3)* Rose
 The study of formal logic and the means of investigation and description employed in the sciences, theory of scientific inference and prediction. Evening.
- 131 *Ethics (3)* Rose
 An examination of ethical theories, the relation of ethics to social sciences and psychology. Morning.
- 142 *Metaphysics (3)* Rose
 The problems of metaphysics in the light of their developments into contemporary forms. (Not offered in 1949-50.)
- 154 *The Linguistic Approach to Philosophy (3)*
 A critical study of philosophical doctrines stressing the dependence of thought upon language.
 Summer term 1949.

- 162 *Aesthetics* (3) Gauss
The problems of appreciation and judgment in the arts, and of theories of the process of artistic creation. Emphasis on contemporary arts and criticism. (Not offered in 1949-50.)
- 171-72 *American Philosophy* (3-3) Rose
A general history of philosophy in the United States and its relation to European thought. Morning.
- 180 *Philosophy of History* (3) Gauss
Problems of historical knowledge and explanation. Critique of philosophies of history. Evening.
- 193 *Topics in Contemporary Philosophy* (3) Gauss
Intensive study of selected topic of moment in contemporary philosophy.
Summer term 1949.
- 199-200 *Proseminar: Readings for the Major* (3-3) Gauss
Conferences and group discussions. Time to be arranged.

THIRD GROUP

- 201-2 *Readings and Research* (3-3) The Staff
Advanced readings and reports. Investigation of special problems. Time to be arranged.
- 211-12 *Seminar* (3-3) Gauss
Topic to be announced. Time to be arranged.
- 299-300 *Thesis* (3-3) The Staff

PHYSICAL EDUCATION FOR MEN *

William Henry Myers, A.M., *Professor of Physical Education for Men, Executive Officer*

Cecil Wentworth Morgan, Ph.D., *Professorial Lecturer in Physical Education*

Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*

Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*

Vincent James DeAngelis, B.S. in P.E., A.M. in Ed., *Assistant Professor of Physical Education for Men*

Ralph Waldo Foster, A.M., *Lecturer in Physical Education*

Arthur David Zahn, A.B., *Associate in Physical Education for Men*

John Howell Rowland, LL.B., *Associate in Physical Education for Men*

Eugene Hugh Sherman, Sr., B.S., *Associate in Physical Education for Men*

This Department includes all the recognized athletic activities of the men students of the University.

Two years of physical education (Physical Education 1-2 and 11-12) are required of all men for graduation, except those students exempt under the regulations stated on page 38.

Upon entering the University, all freshmen or other undergraduate students who have not fulfilled the physical education requirement are given a medical examination. Assignments for medical examinations will be given at the time of registration. The students who satisfy the requirements of the medical examination are then given a physical efficiency test in the general bodily skills of agility, endurance, and strength; and in swimming. If the physical efficiency test is passed, the student may elect from the following list of activities:

Setting-up Exercises (stretching exercises)

Body Building Exercises (gymnastic apparatus and weight lifting skills)

Competitive Exercises (modified games and sports)

Swimming Exercises (distance, speed, and life saving)

If the physical efficiency test is not passed, the student will be assigned to a class for training in the above activities in the order listed.

The Department furnishes gymnasium uniforms and personal equipment upon a small payment.

Minimum requirements for the Dual-Major Teacher's Course.—See pages 129 and 131.

Minimum requirements for the Single-Major Teacher's Course.—See pages 129 and 132.

Minimum requirements for the Physical Education and Recreation Course.—See pages 129 and 139.

* The University is not responsible for injuries received in inter-collegiate or intra-mural games, or in any of the activities of the departments of physical education.

Minimum requirements for the minor.—Prerequisite: Physical Education 42, 43-44, 45-46 (all of these courses may be satisfied by examination), 47, 49, 58. Required: twelve credit hours of second-group courses in physical education, including 103, 107, 113 or 114, and 138.

FIRST GROUP

- 1-2 *Freshman Physical Education** (2-2) The Staff
Four periods of supervised activity a week. Locker and towel fee, \$2 a term. Assignment for activities and time to be arranged.
- 11-12 *Sophomore Physical Education** (2-2) The Staff
Four periods of supervised activity a week. Locker and towel fee, \$2 a term. Assignment for activities and time to be arranged.
- 42 *Aquatic Sports, Swimming, Lifesaving* (2) Hanken
Afternoon.
Physical Education 42x—same as Physical Education 42, but offered fall term. Afternoon.
- 43-44 *Techniques of Physical Education Motor Activities for Freshmen* (2-2) The Staff
A critical survey of the fundamental skills, rules, organization, appreciations, and attitudes in these activities. Afternoon.
- 45-46 *Techniques of Physical Education Motor Activities for Sophomores* (2-2) The Staff
Morning.
- 47 *Introduction to Physical Education* (2) Myers
An orientation course presenting in elementary form the problems of physical education, vocational analysis, historical implication, scientific foundations, and scope of field. Morning.
- 48 *Introduction to Recreation* (2) Myers
A course presenting in elementary form the various phases of this field; the role of recreation in modern living; current practices in community recreation work; standards of training, experience, and salary; types of leadership needed. Open to both men and women. Time to be arranged.
- 49 *Human Anatomy* (3) Tate
The structure of the human body. Basic course for physical education students. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.
- 58 *First Aid and Care of Athletic Injuries* (2) Myers
Prevention and emergency care of injuries of all types, with special reference to first aid, bandaging, and massage. A practical course. Prerequisite: Physical Education 49; Biology 1-2 or Zoology 1-2. Afternoon.
Physical Education 58x—same as Physical Education 58, but offered fall term. Afternoon.

* Freshmen and sophomores in the School of Engineering are required to take two, instead of four, periods of physical education a week for which they receive one, instead of two, credits a term.

SECOND GROUP

- 102 *Play in Education and Recreation* (3) Atwell
The significance of play in human growth and development; play activities for elementary schools and recreation programs. Open to both men and women. 1949-50 and alternate years, morning.
- 103 *History and Principles of Physical Education* (3) Myers
The interpretation of objectives of physical education activities under leadership, in terms of development, adjustment, and standards. Morning.
- 107 *Introduction to Methods in Physical Education* (2) Krupa
Essential facts of education, psychology, and sociology, with special reference to the problem of method in physical education. Prerequisite: Biology 1-2 or Zoology 1-2; Psychology 1 and 2; Sociology 1 and 2. Afternoon.
- 109-10 *Leadership Organization in the Intramural Program* (2-2) Krupa
Principles of administration, organization, and supervision of intramural activities in the physical-education program of the junior high schools, senior high schools, and colleges. Prerequisite: Physical Education 47 and 107. Afternoon.
- 113-14 *Directed Teaching in Physical Education Activities* (2-2) The Staff
Practical demonstration of teaching procedures in adapting activities to the various problems in the secondary school organization. Prerequisite: a minimum of twelve credit hours in physical education; Physical Education 107. Time to be arranged.
- 115-16 *Methods in Major Sport Activities* (2-2) The Staff
Teaching procedures in adapting major sport activities to the several age-period groups and to individual differences existing in the secondary school organization. Prerequisite: demonstration of a fair degree of skill in these various activities; Physical Education 107. Morning.
- 117-18 *Methods in Minor Sport Activities* (2-2) The Staff
The scientific procedures in adapting these various activities to a secondary school physical-education program. Prerequisite: demonstration of a fair degree of skill in these various activities; Physical Education 107. Afternoon.
- 121 *School and Community Health Programs* (3) Dennis
Health services, healthful environment, health instruction, sources of material for general health knowledge. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Evening.
- 122 *Methods and Materials of Health Education* (3) Dennis
Organization and presentation of health materials for each age level. Prerequisite: Biology 1-2 or Zoology 1-2. Open to both men and women. 1949-50 and alternate years, morning.

- 123 *Psychological Analysis of Activities* (2) Krupa
A detailed analysis of the mental processes during participation in physical-education activities. Prerequisite: Psychology 1 and 22. (Not offered in 1949-50.)
- 124 *Applied Anatomy and Physiology* (3) Myers
The anatomical and physiological effects of physical-education activity. Prerequisite: Physical Education 49; Physiology 115; Biology 1-2 or Zoology 1-2. Morning.
- 125 *Kinesiology of Sports for the Physically Handicapped* (3) Morgan
Methods employed in the teaching of body mechanics which are adapted to the prevention and correction of physical disabilities. Prerequisite: Physical Education 49 and 124; Biology 1-2 or Zoology 1-2. Evening.
- 131 *Tests and Measurements in Physical Education* (3) Atwell
Critical survey of tests in physical activities; methods of test construction; elementary statistics. Open to both men and women. 1949-50 and alternate years, morning.
- 132 *Camp Leadership* (1) Atwell
Survey course in camp counseling. Open to both men and women. Afternoon.
- 133-34 *Observation and Practice Teaching* (3-3) Myers
Required of every major student in the junior or senior year. Assignments are made to schools in Washington, D. C., and vicinity. Prerequisite: Education 131; Physical Education 113-14. Practice teaching fee, \$8 a credit hour. Time to be arranged.
- 138 *Administration and Organization of Physical Education* (3) Myers
The administration of a unified program; a study of physical education plants, athletic fields, and equipment. Prerequisite: Physical Education 47. Morning.
- 151-52 *Group Leadership Activities* (3-3) Foster
Fall term: groups and their significance, group work principles and methods, professional and volunteer leaders, organization and development of programs. Winter term: application to social-recreational activities. 1949-50 and alternate years, evening.
- 153-54 *Group Leadership Activities* (3-3) Foster
Fall term: organization and direction of physical recreation programs. Winter term: organization and direction of special recreational activities, such as arts and crafts, dramatics, group singing, and nature walks. 1950-51 and alternate years.
- 161 *Community Organization for Recreation* (3)
1950-51 and alternate years.

- 162 *Administration and Supervision of Recreation (3)*
1950-51 and alternate years.

THIRD GROUP

- 211 *Problems in Physical Education (3)*
For experienced teachers. Organization, supervision, and curriculum problems growing out of current issues; program planning policies; competition. 1950-51 and alternate years.
- 220 *Problems in Health Education (3)*
Health needs; policies and program planning; use of community resources; promising practices in the field. 1950-51 and alternate years.
- 231 *Evaluation in Physical Education (3)* Phillips
Planning the evaluation program; review of outcomes; analysis of tests and standards; administration and interpretation of tests; guidance. 1949-50 and alternate years, Saturday morning.
- 240 *Physical Education for the Atypical (3)* Morgan
Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis. 1949-50 and alternate years, Saturday morning.

PHYSICAL EDUCATION FOR WOMEN *

Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women, Executive Officer*

Bernath Eugene Phillips, Ph.D., *Professorial Lecturer in Physical Education*

Helen Bennett Lawrence, A.M., *Associate Professor of Physical Education for Women*

Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*

Virginia Loretta Dennis, A.M., *Assistant Professor of Physical Education for Women*

Marjorie Tate, A.M., *Assistant Professor of Physical Education for Women*

Catharine Watkins Prentiss, B.S., *Instructor in Physical Education for Women*

Helen Taylor Harris, A.M., *Associate in Physical Education for Women*

Louise Packer Seager, *Associate in Physical Education for Women*

Two years of physical education (Physical Education 1-2 and 11-12) are required of all women for graduation, except of students exempt under the regulations stated on page 38. In the fall a complete medical and physical examination is given each student for the purpose of discovering individual needs. Those students whose examinations indicate the desirability of remedial or restricted activity are assigned to a program especially adapted to their needs. This limited program includes moderate sports and individual exercises in small groups under careful supervision.

The required costume for physical education classes may be purchased at the Student Club.

Minimum requirements for the major.—For the first two years in Junior College see page 61. For the last two years in the School of Education see pages 132-33. Students desiring to prepare themselves to teach another subject in addition to physical education may do so by choosing their elective hours in one subject-matter field with the advice of the Dean of the School of Education.

FIRST GROUP

1-2 *Freshman Physical Education (1-1)*

The Staff

One period of fundamentals of health, physical education, and recreation, and two periods of activity a week.

Fundamentals of health, physical education, and recreation; study of the factors involved in the maintenance of health and in the efficient use of the body, and practice in activities adapted for leisure time. Morning and afternoon sections.

Activities: soccer, riding, field hockey, folk and square dance, modern dance, bowling, ice skating, roller skating, basketball, badminton,

* The University is not responsible for injuries received in inter-collegiate or intra-mural games, or in any of the activities of the departments of physical education.

individual body mechanics, swimming, tennis, softball, archery, golf, canoeing. Locker and towel fee,* \$2 a term. Morning and afternoon sections.

- 11-12 *Sophomore Physical Education (1-1)* The Staff
Activities: same as Physical Education 1-2. Locker and towel fee,* \$2 a term. Two periods a week; morning and afternoon sections.

- 13-14 *Skill Techniques in Physical Education Activities (2-2)* The Staff

Practice in basic motor skills for prospective teachers in the following: (1) team sports—field hockey, soccer, basketball, and softball; (2) dance—folk, square, and modern; (3) body mechanics; (4) individual and dual sports—swimming, tennis, golf, badminton, archery. Programs are arranged according to individual needs. Locker and towel fee,* \$2 a term. Afternoon.

- 15-16 *Methods of Teaching Physical Education Activities (2-2)* The Staff

(a) Team Sports: teaching procedures, organization, and equipment; (b) Recreational Dance: methods and materials for teaching folk, square, and social dance. Locker and towel fee,* \$2 a term. Afternoon.

- 18 *Kinesiology (3)* Tate

A study of the anatomical mechanism of movement, analysis of the action of the muscles in physical education activities. Open to both men and women. Prerequisite: an approved course in anatomy. Morning.

- 48 *Introduction to Recreation (2)* Myers

A course presenting in elementary form the various phases of this field; the role of recreation in modern living; current practices in community recreation work; standards of training, experience, and salary; types of leadership needed. Open to both men and women. Time to be arranged.

- 49 *Human Anatomy (3)* Tate

The structure of the human body. Basic course for physical education majors. Also open to both men and women not majoring in Physical Education. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.

SECOND GROUP

- 102 *Play in Education and Recreation (3)* Atwell

The significance of play in human growth and development, play activities for elementary schools and recreation programs. Open to both men and women. 1949-50 and alternate years, morning.

- 103 *History and Principles of Physical Education (2)* Atwell

1950-51 and alternate years, morning.

* The locker and towel fee is required for registration in one or more of the activity courses.

105-6 *Therapeutic and Remedial Physical Education and Physical Examinations (3-3)* Lawrence

Cause and correction of faulty body mechanics and other abnormal physical conditions, physical-examination methods used in the diagnosis of physical defects, program adaptation to special cases. Prerequisite: Biology 1-2 or Zoology 1-2. Morning.

111-12 *Methods of Teaching Physical Education Activities (2-2)* The Staff

(a) Individual and Dual Sports: teaching procedures, organization and equipment; (b) Modern Dance; methods and materials for teaching Modern Dance, dance composition. Locker and towel fee,* \$2 a term. Afternoon.

119-20 *Problems in Teaching Physical Education Activities (2-2)* The Staff

Advanced material for the teaching of physical education with opportunity for specialization in sports or in dance. (a) Teaching and officiating in individual, dual, and team sports; (b) Advanced technique, projects in teaching and production in the dance. Locker and towel fee,* \$2 a term. Afternoon.

121 *School and Community Health Programs (3)* Dennis

Health services, healthful environment, health instruction, sources of material for general health knowledge. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Evening.

122 *Methods and Materials of Health Instruction (3)* Dennis

Organization and presentation of health materials for each age level. Prerequisite: Biology 1-2 or Zoology 1-2. Open to both men and women. 1949-50 and alternate years, morning.

130 *Clinical Work in Therapeutic and Remedial Physical Education (3)* Lawrence

Practice in giving physical examinations, analysis of results, prescription and teaching of corrective exercises; observation in orthopedic clinics in city; first aid and care of athletic injuries, with instruction in bandaging and massage. Prerequisite: Physical Education 18, 49, and 105-6, Biology 1-2 or Zoology 1-2. Time to be arranged.

131 *Tests and Measurements in Physical Education (3)* Atwell

Critical survey of tests in physical activities; methods of test construction; elementary statistics. Open to both men and women. 1949-50 and alternate years, morning.

132 *Camp Leadership (1)* Atwell

Survey course in camp counseling. Open to both men and women. Afternoon.

* The locker and towel fee is required for registration in one or more of the activity courses.

- 133-34 *Observation and Practice Teaching* (3-3) Atwell
Directed teaching with weekly conferences in junior and senior high schools. Physical Education 134, practice teaching fee, \$8 a credit hour. Time to be arranged.
- 135-36 *Survey of Dance History and Dance Forms* Burtner
(3-3)
Primitive, Greek, medieval, pre-classic, romantic, and modern periods. Traditional forms, such as polka, schottische, mazurka, and waltz. Fundamental movement techniques, composition and discussion. Designed for students interested in art, drama, and dance. 1950-51 and alternate years.
- 140 *Administration of Physical Education* (3) Atwell
Organization and administration of physical education in elementary and secondary schools and colleges. Prerequisite: Physical Education 103. 1950-51 and alternate years.
- 151-52 *Group Leadership Activities* (3-3) Foster
Fall term: groups and their significance, group work principles and methods, professional and volunteer leaders, organization and development of programs. Winter term: application to social-recreational activities. 1949-50 and alternate years, evening.
- 153-54 *Group Leadership Activities* (3-3) Foster
Fall term: organization and direction of physical recreation programs. Winter term: organization and direction of special recreational activities, such as arts and crafts, dramatics, group singing, and nature walks. 1950-51 and alternate years.
- 161 *Community Organization for Recreation* (3)
1950-51 and alternate years.
- 162 *Administration and Supervision of Recreation* (3)
1950-51 and alternate years.

THIRD GROUP

- 211 *Problems in Physical Education* (3)
For experienced teachers. Organization, supervision, and curriculum problems growing out of current issues; program planning policies; competition. 1950-51 and alternate years.
- 220 *Problems in Health Education* (3)
Health needs, policies and program planning, use of community resources, promising practices in the field. 1950-51 and alternate years.
- 231 *Evaluation in Physical Education* (3) Phillips
Planning the evaluation program, review of outcomes, analysis of tests and standards, administration and interpretation of tests, guidance. 1949-50 and alternate years, Saturday morning.
- 240 *Physical Education for the Atypical* (3) Morgan
Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis. 1949-50 and alternate years, Saturday morning.

PHYSICAL MEDICINE

Charles Samuel Wise, B.S., M.D., *Associate Professor of Physical Medicine, Executive Officer*

Dorothy Emily Voss, Ed.B., R.P.T.T., *Instruction in Physical Medicine*

Jasper Wayne McFarland, M.D., *Clinical Instructor in Physical Medicine*

150 *Elements of Physical Medicine*

The Staff

Lectures and demonstrations of the various tests and measurements employed in evaluation of physical disability. Emphasis is placed on normal and abnormal peripheral nerve testing (electrodiagnosis), muscle testing, joint range and other physical disability measurements.

351-52 *Advanced Physical Medicine*

The Staff

Lectures and demonstrations concerning the various techniques, clinical applications of physical medicine, and rehabilitation to be integrated with the teaching of the associated medical and surgical specialties.

467-68 *Clinical Studies*

The Staff

Clinical teaching and demonstration at the University Hospital.

485 *Research*

The Staff

Hours to be arranged.

PHYSICS

Thomas Benjamin Brown, Ph.D., *Professor of Physics, Executive Officer*

Walter Lynn Cheney, Ph.D., *Professor of Physics*

*George Antony Gamow, Physics D., *Professor of Theoretical Physics*

David Bulkley Langmuir, Ph.D., *Professorial Lecturer in Physics*

George Martin Koehl, A.M., *Associate Professor of Physics*

Robert Randal Meijer, Ph.D., *Associate Professor of Physics*

, *Assistant Professor of Physics*

Jean McQuiston Coover, A.M. in Ed., *Instructor in Physics*

Arthur Castner Christman, Jr., B.S., *Instructor in Physics*

Robert Malcolm Stewart, B.S., *Instructor in Physics*

John Ettinger Tompkins, A.B., *Associate in Physics*

Thomas Arthur Wiggins, B.S., *Associate in Physics*

Charles Ravitsky, M.S. in Ed., *Associate in Physics*

Albert Prentice Kenyon, A.M., *Associate in Physics*

Philip Krupen, A.M., *Associate in Physics*

John Newell Tevis, A.M., *Associate in Physics*

DeWitt Fisher, A.M., *Associate in Physics*

Walter Louis Asling, A.M., *Associate in Physics*

The major in Physics (Departmental).—Prerequisite: Physics 6, 7, 8, and 55; Chemistry 21; Mathematics 19 and 20. Required for the Bachelor of Arts degree: Physics 101, 102, 105, 106, 113-14, and 155 or 156; Mathematics 132. Required for Bachelor of Science degree: same as for the Bachelor of Arts degree, plus Mathematics 171.

FIRST GROUP

5 *General Physics* (3)

Koehl and Staff

Introduction to the scientific method as used in the study of energy and forces; physical properties of solids, liquids, and gases; phenomena of heat and light. Prerequisite: high school algebra and plane geometry. Material fee, \$6. Lecture (1 hour); recitation (1 hour); laboratory (2½ hours). Morning, afternoon, and evening sections.

Physics 5x—same as Physics 5, but offered winter term. Lecture (1 hour)—morning and evening sections; recitation (1 hour)—morning, afternoon, and evening sections; laboratory (2½ hours)—morning, afternoon, and evening sections.

6 *General Physics* (3)

Cheney and Staff

Mechanics, wave-motion, sound, and optical instruments. Offered winter term. Prerequisite: Physics 5†; high school algebra and plane geometry. Material fee, \$6. Lecture (1 hour); recitation (1 hour); laboratory (2½ hours). Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

* Leave of absence fall term 1949.

† This prerequisite may be waived for students who have credit for a high school physics course which included individual laboratory work, providing they pass the qualifying examination given at the dates specified in the University calendar.

7 General Physics (3) Meijer and Staff
Elementary electricity and magnetism. Offered fall term. Prerequisite: Physics 5*; high school algebra and plane geometry. Material fee, \$6. Lecture (1 hour); recitation (1 hour); laboratory (2½ hours). Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

8 General Physics (3) Brown, Meijer, and Staff
Foundations of Modern Physics.—The experimental evidence concerning light waves and quanta, X-rays, and radiowaves; electrons, protons, and other elementary particles; atomic and molecular structure; and nuclear physics. Prerequisite: Physics 6 and 7. Morning and evening sections. (Also offered 1949 summer term.)

55 Physical Measurements (2) Cheney and Staff
Theory and use of the methods of precise measurement in the several fields of physics. Prerequisite: Physics 6 and 7. Prerequisite or concurrent registration: Mathematics 19. Material fee, \$6. Lecture (1 hour)—afternoon and evening sections; laboratory (2½ hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

SECOND GROUP

101 Mechanics (3) (formerly 121) Koehl
Statics, elasticity, dynamics of solids and fluids, and gravitation. Prerequisite: Physics 6; Mathematics 20. Evening.

102 Heat and Thermodynamics (3) (formerly 122) Cheney
Thermometry, calorimetry, heat conduction, the laws of thermodynamics with application to physical systems. Prerequisite: Physics 8; Mathematics 20. Evening.

105 Principles of Electricity (3) (formerly 125) Cheney
Fundamental phenomena of electricity and magnetism; circuit theory, including elementary alternating-current circuits; terrestrial magnetism; atmospheric electricity. Prerequisite: Physics 8; Mathematics 20. Morning.

106 Optics (3) (formerly 116) Koehl
Geometrical optics; elementary theory of wave motions; interference, diffraction, polarization, and dispersion of light; laws of black-body radiation. Prerequisite: Physics 8; Mathematics 20. Morning.

113-14 Atomic and Molecular Physics (3-3) Meijer
Constituent particles of matter, properties of the electron, photoelectric effect, X-rays, elements of the quantum theory, spectra and structure of atoms and molecules, and introduction to statistical physics. Prerequisite: Physics 8; Mathematics 20. Morning and evening sections.

* This prerequisite may be waived for students who have credit for a high school physics course which included individual laboratory work, providing they pass the qualifying examination given at the dates specified in the University calendar.

123x Nuclear Physics (3)

Radioactivity, nuclear transformations, new particles; astrophysical applications. Prerequisite: Physics 113-14. Evening.

128 Sound (3)

Cheney

Production, propagation, and detection of sound waves; vibrations of sounding bodies; acoustic instruments and acoustic measurements. Prerequisite: Physics 8; Mathematics 20.

Summer term 1949.

132 Electronics (3)

Brown, Meijer, and Staff

The phenomena of electron emission from solids; the physical properties of electron tubes, and the principles underlying their basic applications. Prerequisite: Physics 8 and 55, and Physics 105 or Electrical Engineering 10. Material fee, \$6. Lecture (2 hours), laboratory (2 hours)—afternoon and evening sections.

133 Electronic Circuits (3)

Brown

A continuation of Physics 132. Includes basic radiofrequency applications of electron tubes, and special types of tubes such as klystrons, resonators, and magnetrons. Lectures and problems. Prerequisite: Physics 132; Electrical Engineering 107. Evening.

155-56 Advanced Physical Measurements (3-3)

Brown

Optional programs of experiments in electricity and magnetism, optics, or atomic physics. Corresponding prerequisites are Physics 105, 106, or 113. In addition, Physics 55 is a general prerequisite. Material fee, \$6. Afternoon and Saturday sections.

THIRD GROUP**211-12 Classical Physical Theory (3-3)**

Langmuir

Fall term: dynamics of systems of particles and of rigid bodies; generalized coordinates. Winter term: dynamics of elastic bodies and fluids; electromagnetic field theory. Prerequisite: Physics 101, 102, and 105; Mathematics 132 and 171. Evening.

213-14 Electromagnetic Radiation (3-3)

Brown

Electromagnetic theory as applied to light and radio waves, with especial consideration given to "micro-waves". Prerequisite: Physics 105 and Mathematics 132, or the equivalent. Evening.

215 Physics of the Solid State (3)

Meijer

Theory and experimental techniques connected with the principal properties of the various solid types. Topics to be discussed include the structure of solids, their thermal and mechanical properties, the electronic behavior of metals, semiconductors, etc., and the magnetic and optical properties of solids. Prerequisite: Physics 113-14. (Not offered in 1949-50.)

221-22 Quantum Mechanics (3-3)

Gamow

Formulation and application of laws holding within the atom, the relation of these laws to those of classical physics. Prerequisite: Physics 113-14 and 211-12. Evening.

- 235 *Electron Dynamics* (2) Langmuir
Emission of electrons; behavior of electrons in free spaces; behavior in axial fields, as in electron-optics, effects of time variable. Prerequisite: Physics 132; Mathematics 132. (Not offered in 1949-50.)
- 255-56 *Advanced Laboratory* (3-3) Brown
Special topics. One term of this course is required of all Master's candidates in physics. Not open to undergraduates. Material fee, \$6 a term. Afternoon and Saturday sections.
- 266 *Relativity and Gravitational Theory* (3) Gamow
Basic principles, relativistic mechanics and electrodynamics, theory of gravitation, cosmology. Prerequisite: Physics 211-12. (Not offered in 1949-50.)
- 275 *Structure of Stars* (3) Gamow
Prerequisite: Physics 123 and 221. (Not offered in 1949-50.)
- 291-92 *Seminar: Recent Developments in Physics* (1-1) Cheney and Staff
Individual investigations of special problems. All students registered for a Master's degree in physics are expected to attend this seminar during residence for the degree, and to take part in its programs. Credit for participation in the seminar work may be obtained by registering for this course during the last two terms of residence; this credit, however, is based upon the seminar work during the entire period of residence. Alternate weeks, evening.
- 299-300 *Thesis* (3-3) The Staff

PHYSIOLOGY

Errett Cyril Albritton, A.B., M.D., *Professor of Physiology, Executive Officer*

Chester Elwood Leese, Ph.D., *Professor of Physiology*

Abraham Dury, Ph.D., *Assistant Professor of Physiology*

115 Physiology (3)

Leese and Staff

Lectures for academic students covering the fundamentals of physiology in its various subdivisions. Prerequisites: one year of general science or one term of a biological science. Section A: Tues., Thurs., and Sat., 9:10 A.M.; section B: Tues. and Thurs., 5:10 to 6:25 P.M.

117 Experimental Physiology (1)

Dury and Staff

Laboratory exercises in the fundamentals of physiology, for academic students. Prerequisite or concurrent registration: Physiology 115 or the equivalent. Material fee, \$12. Sat., 10:10 A.M. to 1:00 P.M.

120 Physiology of Endocrine Activity (2)

Albritton

The circulatory, metabolic, reproductive, growth, and other adaptations, immediate and long term, accompanying and affecting endocrine activity. May be taken for two credits with additional work. Prerequisite: Physiology 115 or the equivalent. Tues. and Thurs., 5:10 P.M.

130 The Psycho-physiology of Personality (2)

Leese

Lectures on the genesis and expression of personality, with emphasis on the physiological approach. Prerequisite: Physiology 115 or the equivalent and general psychology. Tues. and Thurs., 6:10 P.M.

150 Advanced Physiology

The Staff

One hundred physiological lectures and one hundred thirty laboratory hours devoted to the major divisions of the subject. For Medical Students.

159-60 Experimental Method (1-1)

Albritton

Design of controlled experiments in medical or biological investigation; errors in design; criticism and judgment of evidence, and tests of the statistical significance of experimental results. Sat., 12:00 to 1:00 P.M.

169-70 Problems in Physiology

Albritton and Staff

Hours and credits to be arranged.

179-80 Physiology Seminar (1-1)

The Staff

Weekly throughout the year.

231 Advanced Physiology of

Albritton and Staff

Circulation and Respiration (2)

Lectures on blood, heart, circulation, respiration, and acid-base balance. Two hours a week, to be arranged.

- 234 *Advanced Physiology of Nutrition, Metabolism, and Excretion (2)* Dury and Staff
Lectures on nutrition, digestion, metabolism, excretion, temperature regulation, and water balance. Two hours a week, to be arranged.
- 236 *Advanced Physiology of the Endocrine Glands and Reproduction (1)* Dury and Staff
Lectures on ductless glands, hormones, humoral agents, and reproduction. One hour a week, to be arranged.
- 238 *Advanced Physiology of the Neuro-Muscular System (2)* Leese and Staff
Lectures on sensory reception, central nervous processes, somatic and visceral motor activity, and the behavior of smooth and striped muscle. Two hours a week, to be arranged.
- 240 *Advanced Experimental Physiology (3)* The Staff
Laboratory work only. Correlated with the lectures in courses 231-238. Material fee, \$25. Nine hours a week, to be arranged.
- 295-96 *Research* Albritton, Leese, and Staff
Hours and credits to be arranged.
- 299-300 *Thesis (3-3)* Albritton, Leese

POLITICAL SCIENCE

Warren Reed West, Ph.D., *Professor of Political Science*

John Albert Tillema, Ph.D., LL.M., S.J.D., *Professor of Political Science*

John Withrow Brewer, Ph.D., *Professor of International Law, Executive Officer*

_____, *Assistant Professor of Political Science*

William Crane Johnstone, Jr., Ph.D., *Professorial Lecturer in Political Science*

Elmer Boyd Staats, Ph.D., *Professorial Lecturer on Public Administration*

Wolfgang Herbert Kraus, Dr. Jur., S.J.D., *Associate Professor of Political Science*

Allen Dailey Manvel, A.B., *Lecturer on Public Administration*

Fred Latimer Hadsel, Ph.D., *Lecturer in Political Science*

William George Torpey, Ph.D., *Lecturer on Public Administration*

Floyd Millard Riddick, Ph.D., *Lecturer in Political Science*

Thomas Ewing Cotner, Ph.D., *Lecturer in Political Science*

Jonathan Stoddart, A.M., *Instructor in Political Science*

Minimum requirements for the major in Political Science (Departmental).—

Prerequisite: Political Science 9-10. Required: twenty-four credit hours from the following groups distributed as follows: six hours from Group A; six hours from Group B; six hours from Group A, B, or C; six hours from Group A, B, C, or D.

Group A: Political Science 111, 112, 117-18, 121-22. Group B: Political Science, 171, 172, 181-82. Group C: Political Science 115, 116, 124, 141, 151-52, 161-62, 175-76, 191, 194. Group D: Political Science 127, 128, 129, 130.

Students interested in preparing for graduate work in Public Administration will consult the Executive Officer of the Department for modifications of the above requirements.

FIRST GROUP

9-10 *Government of the United States** (3-3) The Staff
Morning and evening sections. (Also offered 1949 summer term.)

SECOND GROUP *

111 *The Governments of Europe: England, France, and Switzerland* (3) Kraus
Morning. (Also offered 1949 summer term.)

* Political Science 9-10 is prerequisite to all second-group courses.

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|--------|---|----------|
| 112 | <i>The Governments of Europe: Soviet Union, Germany, and Italy (3)</i> | Kraus |
| | Morning. | |
| 115 | <i>Municipal Government (3)</i> | _____ |
| | Evening. | |
| 116 | <i>Political Parties (3)</i> | _____ |
| | Evening. | |
| 117-18 | <i>Political Theory (3-3)</i> | Kraus |
| | Morning. (Also offered 1949 summer term—Political Science 118 (3).) | |
| 121-22 | <i>The Constitution of the United States (3-3)</i> | West |
| | Evening. (Also offered 1949 summer term—Political Science 121 (3).) | |
| 124 | <i>Legislative Organization (3)</i> | Riddick |
| | Morning. | |
| 127 | <i>Commercial Law: Contracts, Agency, and Bailments (3)</i> | Tillema |
| | Morning and evening sections. (Also offered 1949 summer term.) | |
| 128 | <i>Commercial Law: Negotiable Instruments, Property, Sales, Mortgages (3)</i> | Tillema |
| | Morning and evening sections. (Also offered 1949 summer term.) | |
| 129 | <i>Law in Relation to the Form of Business Units (3)</i> | Tillema |
| | Morning. (Also offered 1949 summer term.) | |
| | Political Science 129x—same as Political Science 129, but offered winter term. Evening. | |
| 130 | <i>Maritime Law (3)</i> | Tillema |
| | Morning. | |
| 141x | <i>The Development of Legal Institutions (3)</i> | Brewer |
| | Morning. | |
| 151-52 | <i>Public Administration (3-3)</i> | _____ |
| | Morning. (Also offered 1949 summer term—Political Science 151 (3).) | |
| 161-62 | <i>Administrative Law (3-3)</i> | Tillema |
| | Evening. | |
| 171 | <i>International Politics (3)</i> | Stoddart |
| | Morning and evening sections. (Also offered 1949 summer term.) | |
| 172 | <i>International Organization: the United Nations (3)</i> | Stoddart |
| | Morning and evening sections. (Also offered 1949 summer term.) | |
| 175 | <i>International Politics in the Western Hemisphere (3)</i> | Stoddart |
| | Evening. | |

- 176 *Current Trends in Latin American Politics and Government* (3) Stoddart
Evening.
- 181-82 *International Law* (3-3) Brewer
Morning and evening sections. (Also offered 1949 summer term.)
- 191 *Government and Politics in the Middle East* (3) _____
Evening.
- 194 *Far Eastern Politics: Contemporary International Relations in the Pacific Area* (3) _____
Evening.
- 199-200 *Proseminar: Readings for International Relations Major* (3-3) Stoddart
Open only to Columbian College majors in this field. Time to be arranged.

THIRD GROUP

- 209-10 *Seminar: the Legislative Process* (3-3) West
Afternoon.
- 212 *Seminar: Comparative Government* (3) Kraus
Evening.
- 213 *Reading Course in Comparative Government* (3) Kraus
Time to be arranged.
- 217 *Seminar: Political Theory* (3) Kraus
Evening.
- 220 *Reading Course in Political Theory* (3) Kraus
Time to be arranged.
- *239 *Seminar: Personnel Administration* (3) Torpey
Evening.
- *240 *Seminar: Problems in Personnel Management* (3) Torpey
Evening. (Also offered 1949 summer term.)
- *252 *Budgetary and Financial Administration* (3) Manvel
Evening.
- *253 *Staff Functions in Government Administration* (3) Manvel
Evening.
- *255 *Seminar: Principles and Problems of Administration* (3) Staats
Evening.

* Primarily for majors in the School of Government.

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|---------|---|------------|
| *260 | <i>Seminar: Administration of Major Governmental Programs (3)</i> | Staats |
| | Evening. | |
| 271-72 | <i>Problems in International Politics and Organization (3-3)</i> | Hadsel |
| | Evening. (Also offered 1949 summer term—Political Science 272 (3).) | |
| *273 | <i>Seminar: International Administration (3)</i> | Hadsel |
| | (Not offered in 1949-50.) | |
| *274 | <i>Seminar: Objectives and Methods of Foreign Policy (3)</i> | Schoenfeld |
| | Evening. | |
| 277-78 | <i>Seminar: Latin American Politics and Government (3-3)</i> | Cotner |
| | Evening. | |
| *279 | <i>Reading Course in International Affairs (3)</i> | Hadsel |
| | Time to be arranged. | |
| 281-82 | <i>Seminar: International Law and Relations (3-3)</i> | Brewer |
| | Evening. (Also offered 1949 summer term—Political Science 281 (3).) | |
| 293-94 | <i>Seminar: International Politics and Government in the Pacific Area (3-3)</i> | Johnstone |
| | (Political Science 294—Evening. Political Science 293 not offered in 1949-50.) | |
| 295 | <i>Reading Course in Far Eastern Politics and Governments (3)</i> | Johnstone |
| | Evening. | |
| 299-300 | <i>Thesis (3-3)</i> | The Staff |

* Primarily for majors in the School of Government.

PSYCHIATRY

Winifred Overholser, A.B., M.D., Sc.D., *Professor of Psychiatry, Executive Officer*

Rosecoe Willis Hall, Ph.B., M.D., *Clinical Professor of Psychiatry*

Solomon Katzenelbogen, M.D., *Clinical Professor of Psychiatry*

Addison McGuire Duval, M.D., *Clinical Professor of Psychiatry*

Sidney Berman, B.S., M.D., *Assistant Clinical Professor of Psychiatry*

Morris Kleinerman, Ch.D., M.B., *Assistant Clinical Professor of Psychiatry*

Harriet Elizabeth Twombly, A.B., M.D., *Associate in Psychiatry*

Samuel Alexander Silk, Ph.D., M.D., *Associate in Psychiatry*

Edgar Deucher Griffin, A.B., M.D., *Associate in Psychiatry*

Isabelle Kendig, Ph.D., *Associate in Psychiatry*

Henry Prather Laughlin, B.S., M.D., *Associate in Psychiatry*

Marshall deGraffenried Ruffin, B.S., M.D., *Associate in Psychiatry*

William Green Cushard, M.D., *Clinical Instructor in Psychiatry*

165 *Dynamics of Personality Development* Berman

An orientation course in the anatomical, physiological, and psychological growth and development of personality. Consideration of characteristics of structure, function, and development of the psyche leading to normal behavior as a basis for the study of the pathological. Evaluation of interpersonal relationships. One hour a week.

178 *Psychopathology* Hall

Manifestations and understanding of various mental mechanisms and abnormal reaction-types, preceded by history of development of psychopathology and illustrated with case material. One hour a week.

266 *Psychiatry* Overholser

History, etiology, symptoms, course, and treatment of the major psychoses with emphasis on the dynamics involving the person as a whole. One hour a week.

268 *Demonstration Clinics* Silk, Twombly

Presentation of clinical cases of major mental illnesses and primary behavior disturbances, correlating with Psychiatry 266. Each student examines patients under supervision. Three hours a week. St. Elizabeths Hospital.

271 *Psychosomatic Aspects of General Medicine* Katzenelbogen

Somatic disorders of functional origin versus organic structural disorders. The role of personality reactions in somatic disorders (illustrative cases). One hour a week.

- 324 *Psychoneurosis* Ruffin
Etiology, psychopathology, clinical aspects, and treatment of various types of psychoneuroses. One hour a week for twelve weeks. Medical Conference Room, Gallinger Hospital.
- 326 *Psychological Techniques in Psychiatric Practice* Kendig
Discussion of psychological concepts and tools available for determination of intellectual level, personality structure, functional impairment, and organic deterioration. One hour a week for four weeks. Medical Conference Room, Gallinger Hospital.
- 331-32 *Clinical Clerkship* Cushard, Griffin
Under supervision, each student conducts mental and physical examinations of patients, works up and presents his cases for discussion and conclusion. Two-week assignments by section. Gallinger Hospital.
- 431-32 *Clinical Clerkship* Duval, Kleinerman, Laughlin, Ruffin
Supervised examination, diagnosis, and treatment of ambulatory borderline cases. Conferences for discussion of cases. Clinical application of psychiatric principles to general medical practice is stressed. Three hours twice weekly, in rotation. University Hospital Out-patient Psychiatric Clinic.

PSYCHOLOGY

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*
 Thelma Hunt, Ph.D., M.D., *Professor of Psychology, Executive Officer*
 *Henry Furness Hubbard, Ph.D., *Adjunct Professor of Psychology*
 Clarence Daniel Leatherman, Ph.D., *Professorial Lecturer in Psychology*
 Curtis Edward Tuthill, Ph.D., *Associate Professor of Psychology*
 Willard Caldwell, Ph.D., *Assistant Professor of Psychology*
 John Todd Wilson, Ph.D., *Assistant Professor of Psychology*
 Ewing Lakin Phillips, Ph.D., *Assistant Professor of Psychology*
 James Mosel, A.M., *Assistant Professor of Psychology*
 John Bissell Carroll, Ph.D., *Lecturer in Psychology*
 Margaret Ives, Ph.D., *Lecturer in Psychology*
 Isabelle Kendig, Ph.D., *Lecturer in Psychology*
 Edwin Wallace Davis, Ph.D., *Lecturer in Psychology*

Minimum requirements for the major in Psychology (Departmental).—Psychology 1, 2 or 22, 29 or 151, 98, 131, 191, and 196; Physiology 115; Statistics 53 and nine credit hours elective in psychology or closely related fields or departments, if specifically approved in advance by the Department of Psychology.

For requirements for graduate degrees, consult the Executive Officer.

FIRST GROUP

- 1 **General Psychology**† (3) The Staff
 The fundamental principles underlying human behavior. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)
 Psychology 1x—same as Psychology 1, but offered winter term. Morning and evening sections.
- 2 **Applied Psychology** (3) Wilson, Mosel
 The applications of psychology in business, industry, medicine, law, guidance, education, and social problems. Morning and evening sections. (Also offered 1949 summer term.)
 Psychology 2x—same as Psychology 2, but offered fall term. Morning and evening sections.
- 22 **Introduction to Educational Psychology** (3) Wilson
 Consideration of individual and group differences, adjustments, and the psychology of learning in relation to education and training. Morning. (Also offered 1949 summer term.)
 Psychology 22x—same as Psychology 22, but offered fall term. Evening.

* On leave of absence 1940-50.

† Psychology 1 is prerequisite to all other courses in Psychology.

- 29 *Child Psychology* (3) Phillips
A genetic approach to the study of the child. Evening. (Also offered 1949 summer term.)
Psychology 29x—same as Psychology 29, but offered winter term. Morning.
- 98 *Abnormal Psychology* (3) Hunt
The causes, diagnosis, treatment, and prevention of the various types of maladjustments and mental disorders. Prerequisite: 6 credits in psychology, or 3 credits in psychology and 6 credits in a biological science. Morning. (Also offered 1949 summer term.)
Psychology 98x—same as Psychology 98, but offered fall term. Morning and evening sections.

SECOND GROUP *

- 121 *Educational Psychology* (3) Wilson
Advanced course in educational psychology. Open each term on the individual study plan to a limited number of students. Time to be arranged.
- 129 *Introduction to Educational and Vocational Guidance* (3) Dreese
Evening.
- 131 *Psychological Tests* (3) Hunt
A survey of psychological tests and their more common uses in business, industry, government, law, medicine, and education. Material fee, \$2.25. Morning. (Also offered 1949 summer term.)
Psychology 131x—same as Psychology 131, but offered winter term. Evening.
- 144 *Personnel Psychology* (3) Mosel
The applications of psychology to personnel work in education, business, industry, and government. Morning. (Also offered 1949 summer term.)
Psychology 144x—same as Psychology 144, but offered fall term. Evening.
- 151 *Social Psychology* (3) Tuthill
The social foundations of attitudes and behavior. Individual adjustment to group situations, such as the family, school, fraternity, and occupation. The psychological bases of race prejudice, nationalism, and war. Morning. (Also offered 1949 summer term.)
Psychology 151x—same as Psychology 151, but offered winter term. Evening.
- 156 *Psychology of Public Opinion* (3) Tuthill
Afternoon. (Also offered 1949 summer term.)
- 162x *Comparative Psychology* (3) Caldwell
A survey of psychological processes in infrahuman organisms, with special emphasis on the evolution of animal behavior from the lowest forms to man. Accompanied by laboratory work. Material fee, \$6. Afternoon.

* Six credits in first group courses are prerequisite to all second group courses.

- 171 *Psychology of Personality* (3) Caldwell
Contemporary approaches to the study of personality. Prerequisite: 12 credits in psychology, including Abnormal Psychology. Afternoon and evening sections. (Also offered 1949 summer term.)
- 191 *Experimental Psychology* (3) Tuthill
The application of experimental methods to various psychological problems. Prerequisite: 12 credits in psychology. Material fee, \$6. Afternoon.
Psychology 191X—same as Psychology 191, but offered winter term. Afternoon and evening sections.
- 192 *Problems in Experimental Psychology* (3) Tuthill
Opportunity for work on individual experimental projects. Prerequisite: Psychology 191. Open each term to a small number of students by permission of the instructor. Time to be arranged.
- 193-94 *Readings in Psychology* (3-3) The Staff
Supervised readings on specific topics in psychology; with conferences; for undergraduate majors. Open only to seniors with 18 or more credits in psychology with a quality point index of 3.00 or higher. Special permission of staff member under whom course is to be taken is necessary. Time to be arranged. (Also offered 1949 summer term.)
- 196 *History and Systems of Psychology* (3) Caldwell
A survey of the contemporary schools of psychology. Prerequisite: 12 credits in psychology. Morning and evening sections. (Also offered 1949 summer term.)

THIRD GROUP *

- 201X *Seminar: Advanced General Psychology* (3) Carroll
General review of the field for graduate students with an intensive study of selected problems. Required in all graduate programs. Evening.
- 202 *Psychological Research Methods and Procedures* (3) Carroll
Required of all Master of Arts candidates in psychology. Prerequisites: Experiment Psychology and Statistics. Evening.
Psychology 202X—same as Psychology 202, but offered fall term. Evening.
- 205-6 *Field Work in Psychology* (3-3) The Staff
Supervised field work in agencies providing psychological service. Admission by permission of the Executive Officer of the Department. Time to be arranged. (Also offered 1949 summer term.)
- 207-8 *Readings in Psychology for Graduate Students* (3-3) The Staff
Supervised readings with conferences on specified topics in psychology. Time to be arranged. (Also offered 1949 summer term.)

* Open only to graduate students with 18 or more credits in psychology, except by special permission of Instructor and Executive Officer of the Department.

- 209x *Seminar: Psychology of Motivation* (3) Wilson
A consideration of various theoretical approaches to the psychology of motivation and systematic concepts and experimental findings deriving from each approach. Afternoon.
- 212 *Seminar: Personality Evaluation by Projective Techniques* (3) Kendig
Evening.
- 213 *Seminar: Clinical Psychology* (3) Ives
An intensive study of some problem in the field of clinical psychology. Evening.
- 223 *Seminar: Learning* (3) Wilson
Covers theories of learning. Evening. (Also offered 1949 summer term).
- 225 *Seminar: Mental Hygiene* (3) Phillips
A study of problems in the field of mental health and prevention of maladjustments and mental disease. Saturday morning. (Also offered 1949 summer term.)
- 226 *Seminar: Clinical Psychology of Childhood* (3) Phillips
A study of behavior problems, personality disturbances, and mental disorders of children. Saturday morning.
- 227x *Seminar: Educational and Vocational Guidance* (3) Dreesse
A study of the techniques of educational and vocational guidance and the application of these procedures in various types of guidance agencies. Prerequisite: Educational or psychological measurements. Evening. (Also offered 1949 summer term.)
- 228 *Seminar: Techniques of Counseling* (3) Dreesse
A detailed study of counseling techniques and the types of counseling problems likely to confront teachers, employee counselors, vocational counselors, and veterans' advisers. Prerequisite: Psychology 227 or the equivalent. Evening. (Also offered 1949 summer term.)
Psychology 228x—same as Psychology 228, but offered fall term. Afternoon.
- 229 *Seminar: Occupational and Educational Information* (3) Davis
Designed to acquaint vocational and educational counselors with the basic occupational and educational information necessary in counseling. Sources of data and techniques of collecting, analyzing, and disseminating for purposes of guidance. Evening.
- 231 *Test Construction* (3) Hunt
The principles underlying test construction; statistical techniques in the construction, evaluation, and standardization of psychological, educational, and vocational tests. Prerequisite: a course in tests and measurements and a course in statistics. Evening. (Also offered 1949 summer term.)

- 232 *Research: Test Construction* (3) Hunt
Individual projects in construction and evaluation of psychological, educational, or vocational tests. Prerequisite: Psychology 231. Time to be arranged.
- 233 *Individual Psychological Testing* (3) Phillips
Instruction and practice in giving of the Binet test, Wechsler-Bellevue Test, and other individual psychological tests. Prerequisite: an elementary course in tests and measurements. Material fee, \$2.25. Afternoon.
Psychology 233x—same as Psychology 233, but offered winter term. Afternoon.
- 234 *Seminar: Test Theory* (3) _____
Evening.
- 242x *Seminar: Psychological Principles of Personnel Management* (3) Leatherman
A study of the applications of psychology to various personnel procedures, for those interested in either government or industrial personnel work. Prerequisite: Psychology 144 or the equivalent. Evening.
- 244 *Seminar: Job Analysis and Evaluation* (3) Leatherman
Evening.
- 246x *Seminar: Personnel Measurement Techniques* Mosel
(3)
Detailed consideration of interviews, personal data analysis, tests, ratings and questionnaires in evaluating employability, job proficiency, and worker morale. Afternoon. (Also offered 1949 summer term.)
- 251 *Seminar: Advanced Social Psychology* (3) Tuthill
Current research and theory in social psychology; group dynamics, ego-involvements, action research, and social interaction theory. Evening.
- 255x *Seminar: Techniques of Opinion and Attitude Measurement* (3) Tuthill
Methods of attitude measurement (interviews, questionnaires, scales, polls) as currently used by private and governmental investigators. The place of attitude studies in schools, industry, government, etc. (Offered in 1950-51 and alternate years.)
- 272 *Seminar: Theories of Personality* (3) Caldwell
A survey of the various theories of personality, with emphasis upon theoretical problems and methodology in the field of personality study. Afternoon.
- 295-96 *Research in Psychology* (arr.) The Staff
Individual research by student, carried out under supervision of staff member. Time and credits to be arranged. (Also offered 1949 summer term.)
- 299-300 *Thesis* (3-3) The Staff

RADIOLOGY

William Woodrow Stanbro, M.D., *Associate Professor of Radiology,*
Executive Officer

Solomon Rodney Bersack, M.D., *Associate in Radiology*
Keene Manning Wallace, M.D., *Associate in Radiology*

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|--------|---|-----------|
| 213 | <i>Basic Radiology</i> | The Staff |
| | Orientation lectures in X-ray physics. | |
| 341-42 | <i>Radiological Diagnosis</i> | The Staff |
| | Lectures in conjunction with the course in Physical Diagnosis. | |
| 358 | <i>Advanced Radiological Diagnosis</i> | The Staff |
| | Lectures and discussions. | |
| 449 | <i>Clinical Studies</i> | The Staff |
| | Students assigned in rotation on a full-time basis for a specific period to the X-ray Department. | |
| 478 | <i>Research</i> | The Staff |
| | Hours to be arranged. | |

RELIGION

Lawrence Daniel Folkemer, Ph.D., *Associate Professor of Religion, Executive Officer*

John Walter Beardslee III, A.B., B.D., *Assistant Professor of Religion*

Minimum requirements for the major in Religion (Departmental).—Eighteen credit hours beyond first-group courses.

FIRST GROUP

- 9 *The Old Testament* (3) Beardslee
A historical and literary approach to the study of the books of the Old Testament with special consideration given to the development of religious ideas, institutions, and outstanding personalities. Morning and evening sections.

- 10 *The New Testament* (3) Beardslee
A study of the literature of the New Testament from the standpoint of occasion, purpose, dominant ideas, and permanent values. Special consideration given to life in the primitive Christian Church. Morning and evening sections. (Also offered 1949 summer term.)

- 59-60 *History of Religions* (3-3) Folkemer, Beardslee
Fall term: primitive and eastern religions—Egyptian religion, Confucianism, Taoism, Buddhism and sects, Hinduism, and Shintoism—considering environment, personalities, religious thought, cultus, ethics, and modern trends. Winter term: Judaism, Christianity, and Islam; analysis of early development, thought, life, institutions, and expansion. Recent issues and trends examined. Morning and evening sections. (Also offered 1949 summer term—Religion 60 (3).)

SECOND GROUP

- 102 *The Prophets, Their Times and Their Message* (3) Beardslee

The development of prophetism in the Old Testament; cultural, economic, psychological, and religious factors in the movement; elements of lasting value in the prophetic teaching. A few of the prophets will be selected for particular study. Morning.

- 103 *The Life and Significance of Jesus* (3) Beardslee
A detailed study of the life and teachings of Jesus on the basis of a comparative analysis of the Gospel records; the significance of the message of Jesus for our own times. Morning.

- 143 *Philosophy of Religion* (3) Folkemer
A constructive investigation of the evidences of religious knowledge and experience, the nature of God and man, the problem of evil, freedom of the will, eternal life, the destiny of human society. Morning.

- 151 *History of the Christian Church to the Reformation* (3) Folkemer
A detailed study of the Christian Church from Apostolic days to the Reformation; relationship between church and state, doctrines, worship, expansion, rise of papacy, monastic movement, and pre-Reformation dissent. Morning.
- 152 *History of the Christian Church Since the Reformation* (3) Beardslee
The origin and development of Protestantism; the Roman Catholic revival; developments among the Eastern churches; doctrines, worship, expansion, church and state, and relation to modern thought and life in the Continent and Great Britain. Morning.
- 172 *Religion in American Life* (3) Folkemer
Growth of religious bodies and institutions in American culture; the heritage of religious freedom and diversity, revivalism and education, science and religious thought, divisions and cooperative movements in religion. Morning.
- 185-86 *Classics of Religious Literature* (3-3) Folkemer
(Not offered in 1949-50.)

ROMANCE LANGUAGES AND LITERATURES

Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

Merle Irving Protzman, Ph.D., *Professor of Romance Languages*

Louis Clark Keating, Ph.D., *Professor of Romance Languages, Executive Officer*

Alan Thomas Deibert, A.M., *Professor of Romance Languages*

Irene Cornwell, Ph.D., *Associate Professor of French*

Antonio Alonso, A.M., *Associate Professor of Spanish*

Carey DeWitt Eldridge, Ph.D., *Assistant Professor of Romance Languages*

Rafael Supervía, Doctor en Derecho, *Assistant Professor of Spanish*

Alberto Vázquez, Ph.D., *Lecturer on Spanish American Literature*

Jacqueline Chevallaz Buhrman, A.M., *Instructor in French*

Elizabeth June Uelsmann, A.M., *Instructor in Spanish*

Felicia Miller, A.M., *Instructor in Spanish*

Julia Elizabeth Hicks, A.M., *Instructor in Romance Languages*

Nancy Cook Brooks, A.M., *Instructor in Spanish*

José Sylvado Bueno, A.M., *Associate in Portuguese*

Roberto Daniel Meléndez, A.B., *Associate in Spanish*

The majors.—The Department of Romance Languages offers three majors administered under the field-of-study plan, and provides proseminars intended to assist the student in preparing himself for the respective major examinations. These are: (1) a *Major in French Literature* (proseminar: French 199-200); (2) a *Major in Spanish Literature* (proseminar: Spanish 199-200); and (3) a *Major in Spanish American Literature* (proseminar: Spanish 197-98). The members of the staff in charge of the respective proseminars are designated as advisers in the respective fields. In these majors, emphasis will be laid upon the political, social, and cultural background of the literature studied, as well as upon writers and their works. A reasonable proficiency in the spoken language will be required. Majors in Romance Languages are strongly advised to study Latin, a knowledge of which is required for graduate work in most institutions. For further details, see the pamphlet on the subject or consult the Executive Officer of the Department or the appropriate adviser.

FRENCH

FIRST GROUP

†1-2 *First-year French* (3-3)

The Staff

For beginners. Grammar, composition, drill in pronunciation, translation of modern French prose. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

French 1x—same as French 1, but offered winter term. Morning and evening sections.

French 2x—same as French 2, but offered fall term. Morning, afternoon, and evening sections.

- 1-2x *First-year French (accelerated)* (6) The Staff
Same as French 1-2, but full year given in fall term on an accelerated basis. Morning.
- †3-4 *Second-year French (3-3)* The Staff
Advanced grammar and composition, reading in modern French prose, oral practice, introduction to French civilization. Prerequisite: French 1-2 or two years of high school French. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)
French 3x—same as French 3, but offered winter term. Morning and evening sections.
French 4x—same as French 4, but offered fall term. Morning and evening sections.
- 3x-4 *Second-year French (accelerated)* (6) The Staff
Same as French 3-4 but full year given in the winter term on an accelerated basis. Morning.

SECOND GROUP

French 3-4 or the equivalent is prerequisite to all second-group courses in French.

- †109-10 *French Conversation and Composition (3-3)* The Staff
Morning, afternoon, and evening sections. (Also offered 1949 summer term.)
- 119-20 *French Literature of the Sixteenth Century (3-3)* Keating
Prose, poetry, drama, and memoirs of the French Renaissance; Rabelais, Montaigne, Marot, La Pléiade, etc. Class analysis of texts, collateral reading. Recommended: History 120. 1949-50 and alternate years, morning.
- 121-22 *French Literature of the Seventeenth Century (3-3)* Protzman
History, philosophy, criticism, memoirs, letters, eloquence, drama, fiction, poetry. Class analysis of texts; collateral reading. Evening.
- 123-24 *French Literature of the Eighteenth Century (3-3)* Deibert
History, philosophy, criticism, letters, drama, fiction, poetry, the "salons", the idea of progress, the idea of science. Class analysis of texts, collateral reading, lectures on literature and history. 1949-50 and alternate years, evening.
- 125-26 *French Literature of the Nineteenth Century (3-3)* Keating
Romanticism and realism: fiction, poetry, drama, criticism. Class analysis of texts, collateral reading, lectures on literature and history. 1950-51 and alternate years, morning.

127-28 *French Literature of the Twentieth Century* (3-3) Keating

Fiction, poetry, drama, criticism. Class analysis of texts, collateral reading, lectures on literature and history. 1949-50 and alternate years, morning.

129-30 *French Drama* (3-3) Protzman

Studies of the principal dramatic movements and theories from the origins to the present, with class analysis of representative plays and individual reports to the class on supplementary plays. Morning.

131-32 *History of French Civilization* (3-3) Cornwell

The social, artistic, and cultural background of French civilization. Lectures, recitations, and informal discussions. Morning.

135 *The Modern Novel in France* (3) Keating

An intensive study of the characteristic novels of the nineteenth and twentieth centuries. Lectures, collateral readings, class discussion. Summer term 1949.

136 *The Modern Drama in France* (3) Protzman

Reading, analysis, and discussion of typical plays and dramatic trends of the nineteenth and twentieth centuries. Lectures, collateral readings, class discussion. Summer term 1949.

199-200 *Proseminar: Readings for the Major in French Literature* (3-3) Protzman

Conferences and group discussions. Afternoon.

THIRD GROUP

227-28 *Seminar in Modern French Literature* (3-3) Keating

Prerequisite: a second-group course in French literature. 1950-51 and alternate years.

229-30 *Seminar in Classical French Literature* (3-3) Protzman

Prerequisite: a second-group course in French literature. The topic for 1949-50 is the plays of Molière. 1949-50 and alternate years, afternoon.

†249-50 *Old French* (3-3) Doyle

Phonology and morphology of Old French, with an outline of its development through Vulgar Latin; survey of French literature to the end of the thirteenth century. Prerequisite: a second-group course in French literature; an elementary knowledge of Latin. Time to be arranged.

†251-52 *Middle French* (3-3) Doyle

French literature of the fourteenth and fifteenth centuries. Class analysis of texts; collateral reading. Prerequisite: a second-group course in French literature. Knowledge of Old French desirable. (Not offered in 1949-50.)

299-300 *Thesis* (3-3) The Staff

PORTUGUESE

FIRST GROUP

- †1-2 *First-year Portuguese (3-3)* Bueno
 For beginners. Grammar, composition, drill in pronunciation, translation of modern Portuguese prose. Evening.
- †3-4 *Second-year Portuguese (3-3)* Bueno
 Advanced grammar and composition, reading of modern Portuguese prose, oral practice, introduction to Portuguese and Brazilian civilization. Prerequisite: Portuguese 1-2 or the equivalent. Evening.

SECOND GROUP

- 127-28 *Portuguese and Brazilian Literature (2-2)*
 Evolution of the Portuguese language; outline of the literature of Portugal (fall term) and Brazil (winter term). Lectures, readings, written reports. Conducted in Portuguese. Prerequisite: Portuguese 3-4 or the equivalent. (Not offered in 1949-50.)

SPANISH

FIRST GROUP

- †1-2 *First-year Spanish (3-3)* The Staff
 For beginners. Grammar, composition, drill in pronunciation, translation of modern Spanish prose. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)
 Spanish 1x—same as Spanish 1, but offered winter term. Morning and evening sections.
 Spanish 2x—same as Spanish 2, but offered fall term. Morning, afternoon, and evening sections.
- 1-2x *First-year Spanish (accelerated) (6)* The Staff
 Same as Spanish 1-2, but full year given in fall term on an accelerated basis. Morning.
- †3-4 *Second-year Spanish (3-3)* The Staff
 Advanced grammar and composition, reading of modern Spanish prose, oral practice, introduction to Latin American civilization. Prerequisite: Spanish 1-2 or two years of high school Spanish. Morning and evening sections. (Also offered 1949 summer term.)
 Spanish 3x—same as Spanish 3, but offered winter term. Morning and evening sections.
 Spanish 4x—same as Spanish 4, but offered fall term. Morning and evening sections.
- 3x-4 *Second-year Spanish (accelerated) (6)* The Staff
 Same as Spanish 3-4, but full year given in winter term on an accelerated basis. Evening.

SECOND GROUP

Spanish 3-4 or the equivalent is prerequisite for all second-group courses in Spanish.

- †109-10 *Spanish Conversation and Composition (3-3)* Alonso and Staff
Morning and evening sections. (Also offered 1949 summer term.)
- 111-12 *Commercial Spanish (3-3)* Meléndez
Conversation and composition; letterwriting. Acquisition of Spanish vocabulary in a practical commercial context. Evening.
- 121-22 *Spanish Literature of the Golden Age (3-3)* Eldridge
Cervantes, Lope de Vega, Calderón; the classic drama, fiction, the ballad, lyric poetry. Class analysis of texts, collateral reading, lectures on literature and history. Morning.
- 123-24 *Cervantes (3-3)* Doyle
Life and works of Cervantes. The Quixote, the Novelas Ejemplares, and other works. Morning.
- 125-26 *Modern Spanish Literature (3-3)* Alonso
Prose and poetry of the eighteenth and nineteenth centuries. Class analysis of texts, collateral reading, lectures on literature and history. Evening.
- 127-28 *Contemporary Spanish Literature (3-3)* Supervía
Prose and poetry of the latter part of the nineteenth and of the twentieth centuries. Class analysis of texts, collateral reading, lectures on literature and history. 1949-50 and alternate years, evening.
- 131-32 *History of Spanish Civilization (3-3)* Supervía
The social, artistic, and cultural background of Spanish civilization. Lectures, recitations, and informal discussion. Morning.
- 135 *The Modern Novel in Spain (3)* Supervía
An intensive study of contemporary novels, novelists, and their backgrounds. Lectures, collateral reading, class discussion.
Summer term 1949.
- 136 *The Modern Drama in Spain (3)* Alonso
A study of selected plays with an appreciation of their social and literary significance. Lectures, collateral reading, class discussion.
Summer term 1949.
- 153-54 *The Modernista Movement in Spanish America (3-3)* Vázquez
A study of the background, trends, and personalities of this movement.
Summer term 1949.

- 155-56 *Spanish American Literature to 1880* (3-3) Vázquez
The literature of Spanish America from the colonial period to the latter part of the nineteenth century. Lectures, collateral reading, reports, and class analysis of important works. (Not offered in 1949-50.)
- 157-58 *Spanish American Literature Since 1880* (3-3) Vázquez
The literature of Spanish America from 1880 to the contemporary period. Lectures, collateral reading, reports, and class analysis of important works. 1949-50 and alternate years, evening.
- 197-98 *Proseminar: Readings for the Major in Spanish American Literature* (3-3) Vázquez
Conferences and group discussions. Time to be arranged.
- 199-200 *Proseminar: Readings for the Major in Spanish Literature* (3-3) Alonso
Conferences and group discussions. Time to be arranged.

THIRD GROUP

- 225-26 *Seminar in Spanish Literature* (3-3) Alonso
Prerequisite: a second-group course in Spanish literature. 1949-50 and alternate years. Time to be arranged.
- 227-28 *Seminar in Spanish American Literature* (3-3) Vázquez
Prerequisite: a second-group course in Spanish American literature. (Not offered in 1949-50.)
- †249-50 *Old Spanish* (3-3) Doyle
Literature and philology: *Poema del Cid*, *Libro de Buen Amor*, *Conde Lucanor*, etc.; Menéndez Pidal's *Manual elemental de gramática histórica española* and Ford's *Old Spanish Readings*. Prerequisite: a second-group course in Spanish literature; an elementary knowledge of Latin. (Not offered in 1949-50.)
- 299-300 *Thesis* (3-3) The Staff

SECRETARIAL STUDIES

Dorothy Helene Veon, Ed.D., *Assistant Professor of Secretarial Studies,
Executive Officer*

June Elizabeth Ayers, A.B., *Associate in Secretarial Studies*

Requirements for the degree of Associate in Arts in Secretarial Studies.—See page 63.

FIRST GROUP

- 1 **Elementary Typewriting (2)** Veon
Fundamental techniques of typewriting, basic styles of business letters, introduction to tabulation, and preparation of general office forms. Laboratory fee, \$4.50. Afternoon and evening sections.
Secretarial Studies 1x—same as Secretarial Studies 1, but offered winter term. Evening.
- 2 **Intermediate Typewriting (2)** Veon
The business letter and its arrangement, advanced tabulation, manuscript typing, office forms, stencil cutting, and legal documents. Prerequisite: Secretarial Studies 1 or the equivalent; ability to type accurately at 30 words a minute. Laboratory fee, \$4.50. Afternoon and evening sections.
Secretarial Studies 2x—same as Secretarial Studies 2, but offered fall term. Evening.
- 11 **Elementary Shorthand and Transcription (4)** Veon
A study of the principles of Gregg shorthand correlated with dictation and transcription. Minimum dictation speed of 60 words a minute attained. Laboratory fee, \$1.50. Morning and evening sections.
- 12 **Intermediate Shorthand and Transcription (4)** Veon
Review of the principles of Gregg shorthand; dictation and transcription on general and specialized business subjects. Minimum dictation speed of 80 words a minute attained. Prerequisite: Secretarial Studies 11 or the equivalent; ability to take dictation at 60 words a minute. Laboratory fee, \$1.50. Morning and evening sections.
- 13 **Advanced Shorthand, Typewriting, and Transcription (3)** Veon
Emphasis on speed and accuracy. Minimum speed of 100 words a minute attained in dictation. Prerequisite: Secretarial Studies 12 or the equivalent; ability to take dictation at 80 words a minute and to transcribe accurately; ability to type 50 words a minute. Laboratory fee, \$1.50. Late afternoon.
- 16 **Secretarial Shorthand, Typewriting, and Transcription (3)** Veon
Dictation and transcription involving vocabularies used in specific businesses and professions, with special reference to Medicine and Law.

Minimum dictation speed of 120 words a minute attained. Prerequisite: Secretarial Studies 15 or the equivalent; ability to take dictation at 100 words a minute and to transcribe accurately; ability to type 55 words a minute. Laboratory fee, \$1.50 Late afternoon.

51 *Business Correspondence and Reports* (3) Ayers

The technique of communication forms with reference to business letters and reports. Survey and analysis of current business literature. Prerequisite: English 1 and 2. Evening.

54 *Secretarial Practice* (3) Ayers

Training in secretarial duties and in the use of secretarial equipment and supplies. Actual office experience involving the taking of dictation and the transcribing of various materials; composing business letters, reports, and other forms; preparing bills, statements, financial forms, and statistical records; modern filing systems. Special adaptation made for medical and legal secretaries. Prerequisite: Secretarial Studies 15 and 51; Business Administration 51; or the equivalent. Time to be arranged.

RELATED COURSE

Education 150 *Teaching of Business Education* (2 to 6)
(Not offered in 1949-50.)

SOCIOLOGY

Harold Loran Geisert, Ph.D., *Professor of Sociology, Executive Officer*

Carr Bartleson Lavell, A.M., *Assistant Professor of Sociology*

Kennett William Yeager, Ph.D., *Assistant Professor of Sociology*

Henry Davidson Sheldon, Ph.D., *Lecturer in Sociology*

The major in Sociology (Departmental).—Prerequisite: Sociology 1 and 2. Required: Sociology 172 and 181 and eighteen hours elective in second and third group courses in sociology or closely related fields or departments, if specifically approved in advance by the Department of Sociology.

For requirements for the Master's degree, consult the Executive Officer.

FIRST GROUP

1-2 *Introductory Sociology** (3-3)

Lavell, Yeager

The origin and development of culture, man's social nature, types of groups and institutions, social processes, factors producing social problems, individual and social disorganization. Morning and evening sections. (Also offered 1949 summer term.)

Sociology 1x—same as Sociology 1, but offered winter term. Morning.

71-72 *The American Community* (3-3)

Yeager

Fall term: types of rural communities, changing rural social institutions, social processes in rural life. Winter term: the growth of cities, urban group life and personality, urban housing and city planning. Morning. (Also offered 1949 summer term, as 125 and 126.)

SECOND GROUP

123 *Fields of Social Work* (3)

Yeager

The nature and scope of social work, the development of social work programs in the United States, the role of public welfare, types of social work. Morning.

124 *Social Legislation* (3)

Yeager

The principles, theories, and techniques of social legislation, relief of poverty, child welfare, housing and city planning, public health and recreation, social insurance. Morning.

127 *Community Organization* (3)

The study of social interaction in American communities, factors making for disorganization, community leadership, methods of organizing social forces to meet community needs. (Not offered in 1949-50.)

131 *Social Institutions* (3)

Sheldon

The origin and development of social institutions, basic needs producing institutional forms, structures and functions of principal institutions and their interrelationship. Evening.

* Sociology 1 is prerequisite to all other courses in Sociology.

- 132 **Marriage (3)** **Yeager**
The reasons for marriage, marriage laws, mate selection, courtship, husband-wife relations, factors in marital adjustment, marriage prediction and counseling. Evening. (Also offered 1949 summer term.)
- 133 **The Family (3)** **Yeager**
A study of the primitive and modern family, changing functions and roles of the family and its members, factors promoting disorganization, family crises, family reorganization. Evening.
- 134 **Child Welfare (3)**
The socialization of the child through the home and other social institutions; the changing status of childhood, dependent and handicapped children, child labor. (Not offered in 1949-50.)
- 135-36 **Crime and Delinquency** **Geisert**
The nature and distribution of crime, factors producing criminal behavior, police systems, the criminal and juvenile courts, the prison system, probation and parole. Morning.
- 141 **Population (3)** **Geisert**
The composition of population, theories of population growth, quantitative and qualitative differences in population groups, trends in population growth, population policies. Morning.
- 142 **Human Migration (3)** **Geisert**
Factors producing population movements, causes and consequences of international migrations, internal population redistribution, effects of selective migration. Morning.
- 151 **Industrial Sociology (3)** **Yeager**
The impact of industrialism on society; sociological analysis of the labor movement, sources of friction and problems of maintaining morale and cooperation in industry. Morning.
- 162 **Social Change (3)** **Yeager**
The effects of technological change on society, nature and theories of social change, factors promoting change; methods of analyzing the social effects of inventions. Morning.
- 164 **Social Control (3)** **Sheldon**
Informal and formal phases of human control; analysis of methods of control used in modern society and the situations in which they occur, policies and techniques of control. Evening.
- 172 **Contemporary Social Theory (3)** **Geisert**
A systematic study of the important schools of contemporary sociology, including recent European as well as American developments, and an evaluation of the scientific contribution of each school. Afternoon.
- 181 **Methods of Social Research (3)** **Geisert**
An analysis of social research techniques and the scientific method; the application of the case study, social survey, statistical, sociometric and experimental methods to social data. Afternoon.

THIRD GROUP

- 225 *Seminar: Social Relations (3)* Geisert
The elements of social relations, types of social identification, utility, commodity, mediated and dissociative relations, valuation of the person, organization of social relations; institutions, groups, societies. Evening.

- 226 *Seminar: Social Structure (3)* Geisert
General characteristics of social structures, analysis of status by types: age, sex, vocational, social classes and castes, personal and categoric relations, unity and continuity of society. Evening.

- 295-96 *Research* The Staff
Time and credits to be arranged.

- 299-300 *Thesis (3-3)* The Staff

SPEECH

Lubin Poe Leggette, A.M., *Associate Professor of Speech, Executive Officer*

George Francis Henigan, Jr., Ph.M., *Associate Professor of Speech*

Calvin Weir Pettit, Ph.M., *Assistant Professor of Speech, Director of Speech Clinic*

Edwin Lockwood Stevens, A.M., *Assistant Professor of Speech*

Edward Perkins Mangum, A.M., *Assistant Professor of Speech*

Walter Byron Emery, LL.B., Ph.D., *Lecturer in Speech*

Emma Sue Phelps, A.M., *Instructor in Speech*

Edith Shores Surrey, A.M., *Instructor in Speech*

Lee Sheward Bielski, A.M., *Instructor in Speech*

Henry Charles Krebs, A.B., *Instructor in Speech*

Andrew Anthony Nilles, A.B., LL.B., *Associate in Speech*

Robert Burns Stevens, A.B., *Associate in Speech*

Bess Davis Schreiner, *Associate in Theatre*

The major in Public Speaking (Departmental).—Prerequisite: Speech 11, 21, 22. Required: twenty-four credit hours including Speech 101, 108, 135, 145-46, 191-92. Recommended in addition: English 125; Journalism 111-12; Philosophy 111-12, 121, 162; Psychology 151.

The major in Theatre (Departmental).—Prerequisite: Speech 11, 12, 21. Required: twenty-four credit hours including Speech 163-64, 165-66. Recommended in addition: English 135-36, 175-76, 183-84.

The major in Speech Correction (Departmental).—Prerequisite: Speech 11, 12, 21. Required: twenty-four credit hours including Speech 101, 175-76, 178, 180. Recommended in addition: Psychology 29, 98, 131, 171; Physiology 115; English 125.

FIRST GROUP

A *Speech Clinic*

Pettit and Staff

Individual or group lessons, without academic credit, for such speech difficulties as lisping, cleft palate, articulatory problems, stuttering, and foreign accents. Fee: for individual lesson, \$5; for group lesson, \$3.

11 *Training the Speaking Voice* (3)

The Staff

Developing ease, naturalness, and clarity in the speaking voice. Analysis of individual voices through recordings. Phonetic approach to the study of the sounds of English, the standards of speech. Class instruction in the problems of rate, volume, pitch, and quality. Recording fee, \$1.50. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Speech 11x—same as Speech 11, but offered winter term. Morning and evening sections.

12 Oral Reading (3)**The Staff**

Reading to others, theory and practice in the problems of interpreting the printed page. Prerequisite: Speech 11 or the permission of the instructor. Recording fee, \$1.50. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Speech 12x—same as Speech 12, but offered fall term. Morning, afternoon, and evening sections.

21 Effective Speaking (3)**Leggette and Staff**

Preparation and delivery of extempore speeches; developing confidence and poise, body and voice control; selecting and organizing material. Recording fee, \$1.50. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Speech 21x—same as Speech 21, but offered winter term. Morning, afternoon, and evening sections.

22 Speech Making (3)**The Staff**

Special emphasis is placed on organization of material and elementary principles of persuasion. This course is a continuation of Speech 21, which is prerequisite. Recording fee, \$1.50. Morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Speech 22x—same as Speech 22, but offered fall term. Morning and evening sections.

41 Parliamentary Law (3)**Emery**

The correct procedure in forming an organization and in conducting its meetings in an orderly and businesslike manner. Saturday morning.

SECOND GROUP**101 Introduction to Phonetics (3)****Pettit**

The fundamental and critical analysis of the sound system of the English language. Attention to comparative phonetics and standards of pronunciation. Recording fee, \$1.50. Afternoon.

101 Oral Interpretation of Literature (3)

Theory and practice in the problems of communicating meaning and emotion. Selections for study include poetry and prose. Prerequisite: Speech 12 or permission of the instructor. Recording fee, \$1.50. Afternoon.

108 Speeches for Special Occasions (3)**E. Stevens**

The preparation and presentation of speeches of introduction, presentation, acceptance, welcome, nomination, and eulogy. Prerequisite: six credit hours of speech. Morning.

109 Radio Speaking and Production (3)**E. Stevens**

Radio speeches, interviews, and discussions; news reporting and interpreting; techniques of direction and production; plays; audience measurement. Prerequisite: Speech 12 or permission of the instructor. Recording fee, \$3 a term. Afternoon.

Speech 109x—same as Speech 109, but offered winter term. Evening.

- 131 *Group Discussion and Conference Leadership* (3) Henigan
The process of thinking and problem solving in committees and small groups, and the methods of leading discussions and conferences. Prerequisite: six credit hours of speech or the permission of the instructor. Afternoon.
- 135 *Argumentation and Debate* (3) Henigan
Study of evidence and inference in reasoned discourse; techniques and methods of debating; argumentative speeches and practice debates on questions of current interest. Prerequisite: Speech 21, 22. Afternoon.
- 138 *Persuasion* (3) Henigan
An advanced course in public speaking with emphasis on audience analysis and audience psychology; preparation and delivery of persuasive speeches; study of current public speeches. Prerequisite: Speech 21, 22. Morning.
- 145-46 *English and American Orators and Oratory* (3-3) Emery
Fall term: a survey of English orators and oratory; winter term: a survey of American orators and oratory from colonial days to recent times. Prerequisite: six credit hours of speech. Evening.
- 151-52 *Acting* (3-3)
Study and practice in the fundamentals of acting technique: body movement, basic expression, and character analysis; interpretation; make-up. Prerequisite: Speech 11, 12. Prerequisite to Speech 152: Speech 151. Laboratory fee, \$2 a term. Late afternoon.
- 155-56 *Stage Scenery and Lighting* (3-3) R. Stevens
Fall term: construction and painting of scenery for the stage. Winter term: fundamental principles of stage light and its uses in the theatre; basic principles of electricity. Application of principles through assignments in the workshop and backstage during performances. Laboratory fee, \$2 a term. Afternoon.
- 161-62 *Theatre Management* (2-2) Schreiner
The psychology of press agency, building the subscription audience, box office and the buying public, the house manager in his own domain, treatment of public by personal contact between and during shows, back stage and the unions, booking in the road shows, "selling theatre". Lectures and practical work on the public performances. Evening.
- 163-64 *Play Direction* (3-3) Mangum
Fundamentals of play production. Fall term: composition, movement, rhythm, and pantomime; elementary stage technique for the actor; problems of play selection; procedure for tryouts and casting, rehearsals, and the directing process. Students will prepare one-act plays for production. Winter term: preparing the public performance. Under the supervision of the instructor, each student will produce a one-act play and will prepare a detailed director's script of a full length play. Lectures and round table discussions of the director's problems at each stage of the process. Admission by permission of the instructor. Laboratory fee, \$2 a term. Evening.

165-66 *History of the Theatre* (3-3)

Leggette

A general survey of the rise of the theatre, the Classical, Medieval, Renaissance, later English and Continental, and Modern theatre. Admission by permission of the instructor. Afternoon.

167-68 *Playwriting* (3-3)

Mangum

The theory and technique of playwriting. Fall term: the theory of drama as an art form, finding a theme, building the story, creating characters, writing the dialogue. Students will study the construction of plays of the past and present. Winter term: writing the one-act play. Under the supervision of the instructor, each student will complete a one-act play. Round table discussions at each stage of the process. Admission by permission of the instructor. Evening.

175-76 *Speech Correction* (3-3)

Pettit

A study of the causes of the disorders of speech with emphasis on methods in diagnosis and treatment of defective speech. Prerequisite: Speech 11 and 101 or permission of the instructor. Recording fee, \$3 a term. Afternoon.

178 *Clinical Practice* (1)

Pettit

Case work in remedial speech. This course may be repeated for a total of three credit hours. Prerequisite: Speech 175. Time to be arranged.

Speech 178x—same as Speech 178, but offered fall term. Time to be arranged.

180 *Speech Pathology* (3)

Pettit

An advanced study of the causes and symptoms of the major physiogenic and psychogenic speech disorders. Prerequisite: permission of the instructor. Afternoon.

191-92 *Classical and English Rhetorical Theory*
(3-3)

E. Stevens

Prerequisite: nine credit hours of speech. Time to be arranged.

THIRD GROUP

251 *Period Techniques in Acting* (3)

Late afternoon.

256 *Scene Design* (3)

Laboratory fee, \$2. Afternoon.

263-64 *Seminar* (3-3)

Evening.

Mangum

299-300 *Thesis* (3-3)

The Staff

STATISTICS

Frank Mark Weida, Ph.D., *Professor of Statistics, Executive Officer*
 Everett Herschel Johnson, Ph.D., *Associate Professor of Statistics*
 Solomon Kullback, Ph.D., *Lecturer in Statistics*
 Dorothy Jeanne Morrow, M.S., *Lecturer in Statistics*
 Charles Lawrence Marks, A.M., *Instructor in Statistics*
 Samuel Greenhouse, B.S., *Associate in Statistics*

Minimum requirements for the major (Field-of-Study).—Prerequisite: Mathematics 12, 19, and 20; Philosophy 121, 122; an introductory course in one of the social sciences, one of the biological sciences, or one of the physical sciences. Required: an understanding of the underlying mathematical theory employed to characterize, compare, and elucidate quantitative or qualitative measurements which are found in Statistics 115-16, 117, 118, 155-56, 157-58; a minimum of twenty-four credit hours of second-group courses in departments unrelated to statistics. For further details, consult the adviser.

FIRST GROUP

51 *Elementary Statistics* (3)

The Staff

Collection of data, classification and tabulation, averages, construction and use of index numbers and quotients, dispersion, analysis of frequency distribution, time series, correlation, and graphic presentation. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5. Lecture (2 hours)—morning and evening sections; laboratory (2 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Statistics 51x—same as Statistics 51, but offered winter term. Morning and evening sections.

52 *Mathematics of Finance* (3)

The Staff

Interest and discount, annuities, valuation of stocks and bonds, sinking funds, amortization, valuation of depletable assets, depreciation, building and loan associations. Prerequisite: one entrance unit in algebra. Morning and evening sections. (Also offered 1949 summer term.)

Statistics 52x—same as Statistics 52, but offered fall term. Morning and evening sections.

53 *Introduction to Statistics in Psychology and Education* (3)

Weida and Staff

Sources of data, tabulation, charts and graphs, averages, dispersion, quartiles and percentiles, raw scores and derived scores, profiles, norms and their use, frequency distributions, intelligence and other quotients, reliability and validity of tests, normal curve, correlation, elementary sampling, statistical error, limitations of statistics. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5. Lecture (2 hours)—

morning and evening sections; laboratory (2 hours)—afternoon and evening sections.

Statistics 53x—same as Statistics 53, but offered winter term. Morning and evening sections.

- 54 *Introduction to Actuarial Science* (3) Weida
Gompertz and Makeham laws of mortality, life contingencies, life annuity premiums, life insurance premiums, reserves, risk, cost, social and other types of insurance. Prerequisite: Statistics 52. (Not offered in 1949-50.)

SECOND GROUP

- 104 *Statistics in Psychology and Education* (3) Weida
Advanced study of correlation and frequency analysis, sampling theory, factor analysis, and applications to specific problems utilizing case method of study insofar as possible. Original work is required of each student. Prerequisite: Statistics 53. Laboratory fee, \$5. Lecture (2 hours), laboratory (2 hours)—evening.

- †107-8 *Biostatistics* (3-3) Marks
Probability and significance, designing experiments, reliability of data, distributions, curve fitting, tests of significance, analysis of variance, correlation. Applications to genetics, anthropology, bacteriology, physiology, pharmacology, life tables, mortality rates and dose-mortality curves; as well as general biology. Prerequisite: one entrance unit in algebra. (Not offered in 1949-50.)

- 111 *Business and Economic Statistics I* (3) Johnson
Applications of statistical methods to specific problems of business administration and economics. Scope of course includes averages, dispersion, frequency distributions, sampling, and simple correlation. Admission by permission of instructor. Morning and evening sections.

- 112 *Business and Economic Statistics II* (3) Johnson
Applications of statistical methods to specific problems of business administration and economics. Scope of course includes multiple and partial correlation, time series analysis, index numbers, business cycles, elasticity of demand and mortality schedules for depreciable property. Prerequisite: Statistics 111 or the equivalent. Morning and evening sections.

- †115-16 *Principles of Statistical Methods** Weida and Staff
(3-3)

This course emphasizes the meaning, uses, and applications of: variates and attributes, measurement and enumeration, averages and dispersion, frequency distributions and their characteristics, errors of measurement and their control, index numbers, trends, cyclical relatives, purposive and random sampling in theory and practice and their errors and estimates, correlation in theory, practice, and applications. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5 a term. Lecture (2 hours)—morning and evening sections; laboratory (2 hours)—afternoon and evening sections. (Also offered 1949 summer term.)

* Statistics 115-16 is for statistics majors, for students desiring to become statisticians, and for students in engineering and the biological and physical sciences.

- 117 Analysis of Variance (3)** Marks
The analysis of variance and covariance to segregate factors producing significant variation, a method to estimate experimental error, multiple classification with unequal class frequencies. Prerequisite: Statistics 115-16. Evening. (Also offered 1949 summer term.)
- 118 Correlation and the Chi-Square Test (3)** Marks
Advanced study of simple, partial, and multiple correlation. Rank correlation, the method of contingency, and the problem of normal and non-normal populations. Tests of independence, likeness, and goodness of fit. Prerequisite: Statistics 115-16. Evening. (Also offered 1949 summer term.)
- †155-56 Mathematical Probability (3-3)** Marks
Definitions, enumeration of cases, total and compound probability, repeated trials, Bayes' theorem and postulate, Bernoulli's theorem and its experimental verification, mathematical expectation, law of large numbers and its applications. Prerequisite: Mathematics 20 and Statistics 115-16. Evening.
- †157-58 Mathematical Statistics (3-3)** Marks
Statistics as a science, types of problems, relative frequency and probability, binomial and multinomial distributions, Pearson system of curves, Gram-Charlier series, Cauchy distribution, correlation by regression method, Lexis theory of dispersion, generating functions, simple sampling theory, moments and semi-invariants. Prerequisite or concurrent registration: Statistics 155-56. Evening.
- 159 Calculus of Observations (3)** Marks
Interpolation; finite differences; least squares and theories of error; method of iteration; numerical differentiation and integration; numerical solution of algebraic, transcendental, differential, and integral equations; errors of observation; practical Fourier analysis; empirical formulas; and curve fitting. Prerequisite or concurrent registration: Statistics 155-56. (Not offered in 1949-50.)
- 160 Quality Control Techniques (3)** Marks
Characteristics; scientific basis; reduction in cost of inspection, rejections, and tolerance limits; quality as an attribute; distribution of quality characteristics; laws basic to control; statistical and maximum control; detection of lack of control. Prerequisite: Statistics 157-58. (Not offered in 1949-50.)
- 161-62 Techniques of Statistical Analysis (3-3)** Weida
Industrial and other statistics, planning experiments, selection of techniques, sampling theory and practice. Prerequisite: Statistics 158 or the equivalent. Evening.
- †197-98 Statistical Mathematics* (3-3)** Kullback
Matrix algebra, quadratic forms, contour integration, measure theory. Stieltjes integration, Cauchy theory of residues, n -dimensional geometry in flat spaces. Prerequisite: Mathematics 139 or the equivalent. Evening.

* Statistics 197-98 is prerequisite to all third-group courses except Statistics 205-6.

†199-200 *Proseminar: Theoretical and Applied Statistics (3-3)*

Weida

In addition to the study of recent advances in statistical methods, this course is designed to coordinate the content of the baccalaureate major. Admission by permission of the instructor. Time to be arranged.

THIRD GROUP *

201 *Design of Experiments (3)*

Morrow

Relative merits of random, repeated, stratified, and double sampling; Fisher-Pitman method of randomization; randomized blocks; Latin squares; factorial design; confounding, partial confounding. Evening.

202 *Theory of Estimation and Testing Hypotheses (3)*

Morrow

Statistical hypotheses; maximum likelihood estimate; Markoff's best estimate; Neyman-Pearson theory of testing hypotheses; Bayes' theory; consistent, efficient, and sufficient statistics; theory of confidence intervals. Evening.

†203-4 *The Theory of Econometrics (3-3)*

Johnson

Statistical methods applied to the analysis of production, supply, and demand; utility and disutility; interest and taxation; exchange. Stress is placed on the interpretation of results in terms of probability. Correlation and regression of time series. Admission by permission of the instructor. 1950-51 and alternate years.

205-6 *Advanced Business and Economic Statistics (3-3)*

Johnson

Application of statistical methods to specific problems utilizing case method insofar as possible. Emphasis is placed on source materials, role of statistical methods, techniques of analysis, interpretation and presentation of results. Original work is required of each student. Prerequisite: Statistics 112 or the equivalent. Evening.

†257-58 *Advanced Mathematical Statistics (3-3)*

Kullback

Mathematical basis of distribution functions, moments and cumulants, probability and likelihood, sampling distributions exact and approximate, Chi-square distribution, association and contingency, various conceptions of correlation, individual difference problem, time series, regression analysis, analysis of variance, theories of inference. Evening.

†259-60 *Advanced Mathematical Probability (2-2)*

Kullback

Modern theories and asymptotic laws; elementary theory of definite integration; limit theorems in probability; the contributions of Cramer, Frechet, Kolmogoroff, Khintchine. Prerequisite: Statistics 257-58 or the equivalent. Evening.

* Statistics 197-98 is prerequisite to all third-group courses except Statistics 205-6.

- †263-64 *Statistical Inference* (2-2) Weida
Sample space; methods for estimating population parameters; fiducial inference and its application to testing hypotheses; valid, efficient, and exact estimation; Student's distribution; variance distribution; sampling statistics, i.e., moments and cumulants used as estimates of population parameters and used to test hypotheses. Prerequisite or concurrent registration: Statistics 259-60 or the equivalent. Evening.
- †265-66 *Multivariate Analysis* (2-2) Kullback
Tests of significance, generalized variance and covariance, tests of independence, canonical and vector correlations, multivariate normal distribution, generalized Student's ratio, problems of estimation, applications to factor analysis. Offered in 1950-51.
- †267-68 *Characteristic Functions* (2-2) Kullback
Fourier integrals, set functions, inversion formulas, limit theorems, applications to the distribution problem in statistics. (Not offered in 1949-50.)
- †269-70 *Sequential Testing* (3-3)
Efficiency of sequential tests, sequential probability ratio test, expected number of observations necessary for a decision, truncated sequential analysis, sequential tests of single and composite hypotheses. (Not offered in 1949-50.)
- 295-96 *Reading and Research* (3-3) Weida
Admission by permission of the instructor. Time to be arranged.
- 299-300 *Thesis* (3-3) Weida

SURGERY

- Brian Blades, A.B., M.D., *Professor of Surgery, Executive Officer*
 Daniel LeRay Borden, A.M., M.D., *Clinical Professor of Surgery*
 Paul Stirling Putzki, M.D., *Clinical Professor of Surgery*
 Arch Lockhart Riddick, B.S., M.D., *Clinical Professor of Surgery*
 William Berry Marbury, M.D., *Clinical Professor of Surgery*
 Custis Lee Hall, M.D., *Clinical Professor of Surgery*
 John Hugh Lyons, M.S., M.D., *Clinical Professor of Surgery*
 Frank Errett Hamilton, A.B., M.D., M.S., *Adjunct Clinical Professor of Surgery*
 Paul Budd Magnuson, M.D., *Adjunct Clinical Professor of Surgery*
 John Gordon Lee, A.B., M.D., C.M., Med. Sc.D., *Adjunct Clinical Professor of Surgery*
 Wallace Harry Graham, B.S., M.D., *Professorial Lecturer in Surgery*
 Herbert Hermann Schoenteld, M.D., *Associate Clinical Professor of Surgery*
 William Warren Sager, M.S., M.D., *Associate Clinical Professor of Surgery*
 Benjamin Franklin Dean, Jr., M.S., M.D., *Assistant Clinical Professor of Surgery*
 Alec Horwitz, M.S., M.D., *Assistant Clinical Professor of Surgery*
 William Stanley McCune, A.B., M.D., *Assistant Clinical Professor of Surgery*
 Vincent Michael Iovine, B.S., M.D., *Assistant Clinical Professor of Surgery*
 Carl Berg, M.D., *Assistant Clinical Professor of Orthopedic Surgery*
 Calvin Trexler Klopp, A.B., M.D., *Assistant Clinical Professor of Surgery*
 Julius Salem Neviasser, A.B., M.D., *Assistant Clinical Professor of Orthopedic Surgery*
 Jerome Blaine Harrell, M.D., *Assistant Clinical Professor of Surgery*
 Leonard Theodore Peterson, A.B., B.S., M.D., *Assistant Clinical Professor of Orthopedic Surgery*
 Richard Knight Thompson, D.D.S., *Associate in Dental Surgery*
 William Ross Morris, M.D., *Associate in Surgery*
 Harold Walter Krogh, D.D.S., *Associate in Dental Surgery*
 Jacob Joseph Weinstein, B.S., Phar.G., M.D., *Associate in Surgery*
 William Carey Meloy, M.D., M.S. in Med., *Associate in Surgery*
 Edward Alexander Cafritz, M.D., *Associate in Surgery*
 Edward James Beattie, Jr., M.D., *Associate in Surgery*
 Hazen Eugene Cole, B.S., M.D., *Clinical Instructor in Surgery*

Crenshaw Douglas Briggs, B.S., M.D., *Clinical Instructor in Surgery*
 William Wiley Chase, A.B., M.D., *Clinical Instructor in Surgery*
 Arthur James Mourot, B.S., M.D., *Clinical Instructor in Surgery*
 Joseph Francis Conlon, D.D.S., *Clinical Instructor in Dental Surgery*
 Otto Anderson Engh, A.B., M.D., *Clinical Instructor in Surgery*
 Duane Case Richtmeyer, A.B., M.D., *Clinical Instructor in Surgery*
 Richard Lee Jackson, M.D., *Clinical Instructor in Surgery*
 Leon Gerber, M.D., *Clinical Instructor in Surgery*
 Walter Henry Gerwig, Jr., A.B., M.D., *Clinical Instructor in Surgery*
 Thomas Bradley, A.B., M.D., *Clinical Instructor in Surgery*
 Lloyd Byron Burk, Jr., M.D., *Clinical Instructor in Surgery*
 Ernest Alva Gould, M.D., *Clinical Instructor in Surgery*
 Austin Bertram Rohrbaugh, Jr., M.D., *Clinical Instructor in Orthopedic Surgery*
 George Alfred Higgins, M.D., *Clinical Instructor in Surgery*
 T. Wiley Hodges, M.D., *Clinical Instructor in Orthopedic Surgery*
 Marvin Hayne Kendrick, M.D., *Clinical Instructor in Surgery*

279-80 *General Surgery* Dean, Harrell
 Course of lectures and recitations covering surgical diseases of the neck and chest, herniae, amputations, and pre- and post-operative treatment. One hour a week for twenty-eight weeks.

283 *Principles of Surgery* The Staff
 A clinical and laboratory course covering the fundamentals of surgery, including studies in inflammation, wound healing, etc. One hour laboratory and one hour in the clinics.

371-72 *General Surgery* Richtmeyer, Riddick
 Course of lectures and recitations covering surgery as applied to the neck, thorax, gastro-intestinal tract, and the bones and skeletal muscles. One hour a week.

373-74 *Ward Walks* The Staff
 Well-organized group ward-rounds are made with the visiting physicians and their respective staffs in the course of their usual rounds. Gallinger Hospital.

375-76 *Surgical Clinic* Blades
 Clinical teaching and demonstrations on the care of the various surgical diseases, with special emphasis on the pre- and post-operative management. Gallinger Hospital.

379-80 *Surgical Staff Conference* The Staff
 Gallinger Hospital. Weekly.

381-82 *Clinical Clerkship* The Staff
 The student is assigned and required to work up thoroughly the cases for diagnosis and treatment. Gallinger Hospital.

- 473-74 Clinical Clerkships** **The Staff**
Available at the University Hospital, Walter Reed General Hospital, and Mt. Alto Hospital.
- 478 Orthopedics** **Hall**
Etiology, pathology, symptomatology, and treatment of congenital and acquired diseases of the bones and joints, and the clinical instruction in treatment and in the use of appliances for the correction of deformities. One hour a week.
- 481 General Surgery** **Blades**
One hour a week.
- 483-84 Dispensary Clinic** **The Staff**
Dispensary instruction in the principles and practice of surgery. Instruction of small groups is given in general surgery and the specialties, including anesthesia, neurosurgery, orthopedics, proctology, and oral surgery. University and Emergency hospitals.
- 485-86 Special Problems in Surgery** **Riddick, Dean**
General surgical diagnosis, with special emphasis on the diagnosis and differential diagnosis of surgical diseases and post-operative complications. One hour a week.
- 488 Surgical Clinic** **The Staff**
Demonstration to the entire class of the various surgical diseases. One hour a week.
- 489 Surgical Anatomy** **Horwitz**
One hour a week.
- 491-92 Surgical Pathology** **Blades, Klopp**
The senior class in groups of ten may attend the meeting of the Tumor Board of the Staff of Walter Reed Hospital and the Warwick Clinic. Patients with all types of neoplasms are demonstrated and gross and microscopic studies of various neoplasms are shown. Three hours a week.
- 493-94 Surgical Diseases of the Chest** **Blades and Staff**
(elective)
Patients with various diseases of the chest, including diseases of the lung, mediastinal, and esophagus are presented. The cases are followed from week to week and operative specimens and microscopic sections are demonstrated. Walter Reed Hospital. Three hours a week.

UROLOGY

Frederick A. Reuter, M.D., *Professor of Urology, Executive Officer*
Thomas Carlton Thompson, B.S., M.D., *Clinical Professor of Urology*
Gilbert Ottenberg, A.M., M.D., *Associate in Urology*
William Dabney Jarman, B.S., M.D., *Clinical Instructor in Urology*
Edward Egner Ferguson, M.D., *Clinical Instructor in Urology*
Leon Richard Culbertson, B.S., M.D., *Clinical Instructor in Urology*

395-96 *Clinics*

The Staff

Clinical teaching and demonstrations on the care of urological cases with special emphasis on the pre- and post-operative management. Operative clinics and clinical teaching. Gallinger Hospital.

491-92 *Urology*

Reuter and Staff

Lectures covering the entire field of urology including diagnosis, treatment, and morbid pathology. One hour a week.

495-96 *Clinics*

Reuter and Staff

Clinical demonstrations and teaching in the Outpatient Department, with special attention given to diagnostic procedures. Emergency and University hospitals. One part of each section daily.

ZOOLOGY *

‡Donnell Brooks Young, Ph.D., *Professor of Zoology*

Ira Bowers Hansen, Ph.D., *Professor of Zoology, Executive Officer*

Kenneth Caspar Kates, Ph.D., *Professorial Lecturer in Zoology*

Edith Elizabeth Mortensen, Ph.D., *Assistant Professor of Zoology*
Instructor in Zoology

The major in Zoology (Field-of-Study).—Prerequisite: Zoology 1-2. The student must, at the end of his senior year, exhibit a correlated knowledge of the following fields: (1) classification, structure, and ecological relations of animals, both invertebrate and vertebrate; (2) embryological development and life histories of important animal types; (3) general principles of physiology, heredity, and evolution; (4) the development of biological principles, hypotheses, and theories as revealed in the study of the history of zoology.

The student will obtain this knowledge in part by taking courses offered in these fields and in part by individual study under the direction of his adviser. For further details, see the pamphlet on this subject or consult the adviser.

Premedical students are required to take Zoology 1-2.

FIRST GROUP

1-2 *Introduction to Zoology* (4-4) Young, Mortensen

An introduction to the study of the structure, functions, and relation of animals, and of the fundamental biological principles involved. Material fee, \$4.50 a term. Lecture (2 hours)—morning and evening sections; laboratory (4 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)

Zoology 1x—same as Zoology 1, but offered winter term. Morning.

Zoology 2x—same as Zoology 2, but offered fall term. Morning.

†5-6 *Field Zoology* (3-3) Mortensen

Summer term 1950 and alternate summers. Material fee, \$2.50.

SECOND GROUP

101-2 *Invertebrate Zoology* (3-3) Mortensen

A systematic study of invertebrate forms, including the study of morphology, classification, life histories, and phylogenetic relationships. Occasional field trips. Prerequisite: Zoology 1-2 or Biology 1-2. Material fee, \$4.50 a term. Lecture (1 hour); laboratory (4 hours). 1949-50 and alternate years—afternoon. 1950-51 and alternate years—evening.

105 *Entomology* (3) Munson

A study of the elementary morphology, physiology, and ecology of insects, with an introduction to the taxonomy of the more important

* See also the departments of Biology and Botany, pages 156-67, and 168-69.
 ‡ On sabbatical leave winter term 1949-50.

- groups. Prerequisite: Zoology 1-2, or the equivalent. Material fee, \$5. Lecture (1 hour), laboratory (4 hours)—morning. (Also offered 1949 summer term.)
- 122 *Zoological Theories* (3) Young
A review of the theories which have affected the development of the various phases of the progress of Zoology. Prerequisite: Zoology 1-2 and one additional year of a biological science. Morning.
- 137 *Histology* (3) Young
An introduction to the microscopical anatomy of normal tissues and organs. Prerequisite: Zoology 1-2. Material fee, \$6. 1949-50 and alternate years, lecture (1 hour); laboratory (4 hours)—evening. 1950-51 and alternate years—afternoon. (Also offered 1949 summer term.)
- 141-42 *Comparative Vertebrate Anatomy* (3-3) Hansen
Lectures on the organ systems of the vertebrates; laboratory dissections of types. Prerequisite: Zoology 2. Material fee, \$6 a term. Lecture (1 hour)—afternoon and evening sections; laboratory (4 hours)—morning, afternoon, and evening sections. (Also offered 1949 summer term.)
- 144 *Introduction to Vertebrate Embryology* (3) Hansen
The origin and early development of the individual and the formation of organ systems. Emphasis is placed on the frog, chick, and pig, with reference to the human embryo. Prerequisite: Zoology 2, and 141 or 142. Material fee, \$6. Lecture (1 hour); laboratory (2 hours)—afternoon. (Also offered 1949 summer term.)
Zoology 144x—same as Zoology 144, but offered fall term. Evening.
- 147-48 *Experimental Morphology* (3-3) Hansen
Lectures and class reports on experimental morphology. Prerequisite: Zoology 141-42 or the equivalent. 1950-51 and alternate years, evening.
- 152 *Protozoa* (3) Mortensen
An introduction to the protozoa: classification, life histories, and physiology, with special emphasis on free-living types. Prerequisite: Zoology 1. Material fee, \$4.50. Lecture (1 hour); laboratory (4 hours)—evening.
- 156 *Parasitology* (3) Kates
An introduction to the study of animal parasitology, with a survey of parasitic types from protozoa through arthropods. Prerequisite: Zoology 1-2 or the equivalent. Material fee, \$6. Evening.
- 171-72 *Special Problems* (3-3) The Staff
Written approval of the instructor is required. Material fee, \$6 a term. Time to be arranged.
- 199-200 *Proseminar* (3-3) The Staff
A course designed to correlate and supplement the work of zoology majors. Morning.

THIRD GROUP

- | | | |
|---------|---|-----------|
| 203-4 | <i>Seminar in Invertebrate Zoology</i> (3-3) | Mortensen |
| | Time to be arranged. | |
| 251-52 | <i>Seminar in Vertebrate Zoology</i> (3-3) | Hansen |
| | Time to be arranged. | |
| 295-96 | <i>Research</i> | The Staff |
| | Investigation of special problems. Time and credits to be arranged.
(Also offered 1949 summer term.) | |
| 299-300 | <i>Thesis</i> (3-3) | The Staff |

UNIVERSITY ORGANIZATIONS

ALUMNI AND ALLIED ASSOCIATIONS

THE GENERAL ALUMNI ASSOCIATION

The objects of this Association are to unite the graduates in closer sympathy and to promote the general welfare of the University. The following persons are eligible for *active* membership: graduates of any college, school, or division of the University; holders of honorary degrees from the University; and members of the Board of Trustees and of the Faculty of the University. Any person who has matriculated, who has been in regular attendance for one year, and who has left the University in good standing, is eligible for *associate* membership.

The Alumni Office is situated at 2018 I Street, Washington, D. C. Alumni are urged to keep the office informed of changes of address or occupation and to supply information with regard to their fellow alumni.

1948-49

President.—Alexander Wetmore, M.S. 1916, Ph.D. 1920, Sc.D. 1932 (A.B. 1912, University of Kansas); 204 Maple Avenue, Takoma Park, Md.

Vice Presidents:

Columbian College.—Elmer L. Kayser, A.B. and T.D. 1917, A.M. 1918, LL.D. 1948 (Ph.D. 1932, Columbia University); 2921 34th Street, Washington, D.C.

Graduate Council.—Helen M. Dyer, M.S. 1929, Ph.D. 1935 (A.B. 1917, Goucher College); Apt. 302 C, Tilden Gardens, Washington, D. C.

School of Medicine.—William Earl Clark, M.D. 1904; 1835 I Street, Washington, D. C.

Law School.—Paul E. Shorb, LL.B. 1920 (A.B. 1917, University of North Dakota); 740 15th Street, Washington, D. C.

School of Engineering.—William J. Ellenberger, B.S. in E.E. 1930, B.S. in M.E. 1934; 6419 Barnaby Street, Washington, D. C.

School of Pharmacy.—William Paul Briggs, B.S. in Phar. 1928 (M.S. 1930, University of Maryland; Sc.D. 1947, Philadelphia College of Pharmacy and Science); 6600 7th Street, Washington, D. C.

School of Education.—May P. Bradshaw, A.B. and T.D. 1909, A.M. 1913; 1631 S Street, Washington, D. C.

School of Government.—John T. C. Daugherty, A.B. in Govt. 1940, LL.B. 1943; 1472 Belmont Street, Washington, D. C.

Dental School.—Sterling V. Mead, D.D.S. 1914; 1149 16th Street, Washington, D. C.

Treasurer.—Anna M. Bischoff, A.B. 1928; 2025 I Street, Washington, D. C.

Executive Secretary.—Lester Allan Smith, A.B. in L.S. 1932, A.M. in L.S. 1935; 2018 I Street, Washington, D. C.

Executive Committee:

Vernon L. Brown, A.B. 1927 (M.B.A. 1941, New York University); 46 Cedar Street, New York City.

W. Cameron Burton, LL.B. 1921; Investment Building, Washington, D. C.

Charles W. Cole, A.B. 1930, A.M. 1931, Ph.D. 1939; 2747 Ordway Street, Washington, D. C.

Thomas R. Edmonston, B.S. in C.E. 1937; 606 Pickwick Lane, Chevy Chase, Md.

Jessie Fant Evans (Mrs. Joshua Evans, Jr.), A.B. and T.D. 1913, Ed.D. 1932; 3405 Lowell Street, Washington, D. C.

Lucile M. Herrick, A.M. 1938, Ed.D. 1942 (B.S. 1924, University of Minnesota; LL.B. 1934, Southeastern University); Veterans Administration, Washington, D. C.

Dorothy S. Jaeger-Lee, M.D. 1939; 425 Greenbrier Drive, Silver Spring, Md.

A. Grace Lind, A.B. and B.Dip. in Ed. 1927 (A.M. 1932, Columbia University); 3373 Rittenhouse Street, Washington, D. C.

William M. Sweet, D.D.S. 1918; 1835 I Street, Washington, D. C.

William C. Thom, B.S. in C.E. 1904, C.E. 1905; 1346 Hemlock Street, Washington, D. C.

Bolon Turner, A.B. 1922, LL.B. 1922, LL.M. 1924; U. S. Tax Court, Washington, D. C.

Frank H. Weitzel, A.B. 1931, LL.B. 1935; 6294 29th Street, Washington, D. C.

THE GEORGE WASHINGTON UNIVERSITY MEDICAL SOCIETY

The George Washington University Medical Society, the organization of graduates of the School of Medicine, was established in 1905 and since 1926 has been affiliated with the General Alumni Association. The objects of the Society, as stated in the constitution, are "The promotion of the science and art of medicine and the welfare of the School of Medicine".

1948-49

President.—James I. Boyd, A.B. 1923, M.D. 1926, M.S. 1927; Upper Marlboro, Md.

President-Elect.—Herbert S. Gates, M.D. 1923; 4480 Dexter Street, Washington, D. C.

First Vice President.—Russell McNitt, M.D. 1925, B.S. in Med. 1925; 1801 I Street, Washington, D. C.

Second Vice President.—Florence E. Grady, A.B. 1936, M.D. 1939; 3718 Ingomar Street, Washington, D. C.

Secretary-Treasurer.—Oscar B. Hunter, M.D. 1912, A.B. 1916, A.M. 1917; Suite 1000, Columbia Medical Building, 915 19th Street, Washington, D. C.

Council:

William M. Ballinger, A.B. 1921, M.D. 1924; 4923 Hillbrook Lane, Washington, D. C.

Robert H. Harmon, M.D. 1929 (A.B. 1915, Millsaps College); 1150 Connecticut Avenue, Washington, D. C.

Fred A. J. Geier, M.D. 1925; 4948 Lowell Street, Washington, D. C.

J. Burton Glenn, M.D. 1921; 2015 Q Street, Washington, D. C.

Clyde P. Reeves, M.D. 1933; 1028 Connecticut Avenue, Washington, D. C.

(Officers of the Society are ex officio members of the Council.)

THE GEORGE WASHINGTON LAW ASSOCIATION

The George Washington Law Association, the organization of graduates of the Law School, was founded in 1912 and has been affiliated with the General Alumni Association since 1926. Its purposes as stated in the constitution are to promote high standards of legal education, to keep the alumni of the Law School in closer touch with one another and especially with members of their own classes, to gather and publish at intervals information as to the whereabouts and activities of these alumni, and to further the interests of the Law School.

1948-49

President.—W. Cameron Burton, LL.B. 1921; Investment Building, Washington, D. C.

First Vice President.—Charles S. Rhyne, LL.B. 1937; 730 Jackson Place, Washington, D. C.

Second Vice President.—Eileen C. O'Connor, J.D. 1941; 1 Scott Circle, Washington, D. C.

Third Vice President.—Oliver E. Pagan II, A.B. 1934, LL.B. 1937; Shoreham Building, Washington, D. C.

Secretary-Treasurer.—Dayton M. Harrington, LL.B. 1942; 1367 Connecticut Avenue, Washington, D. C.

Executive Committee:

Charles R. Allen, Ex-1920; Washington Loan and Trust Building, Washington, D. C.

Mary Agnes Brown, A.B. 1924, LL.B. 1932, S.J.D. 1942; 4606 15th Street, Washington, D. C.

Howard P. Locke, LL.B. 1927; Tax Division, Department of Justice, Washington, D. C.

Frank H. Weitzel, A.B. 1931, LL.B. 1935; 6294 29th Street, Washington, D. C.

THE LIBRARY SCIENCE ALUMNI ASSOCIATION

The Library Science Alumni Association was organized in 1932 by graduates of the Division of Library Science and became an affiliate of the General Alumni Association in 1935. It was established to foster a closer relationship between the Faculty and graduates and to further the interests of the Division of Library Science and of the University as a whole.

1948-49

President.—Matthew A. McKavitt, A.B. in L.S. 1934; 1623 Monroe Street, Washington, D. C.

Vice President.—Mary E. Kelso, A.B. in L.S. 1940; 402 Oakwood Street, SE., Washington, D. C.

Secretary.—A. Marguerite Matthews, A.B. in L.S. 1939; 9214 Midwood Road, Woodside Forest, Silver Spring, Md.

Treasurer.—Helen C. Sunday, A.B. in L.S. 1935; 525 Third Street, NE., Washington, D. C.

THE ENGINEER ALUMNI ASSOCIATION OF THE GEORGE WASHINGTON UNIVERSITY

The Engineer Alumni Association was organized in 1936 and has been affiliated with the General Alumni Association since that time. Its objects are to unite the graduates and Faculty of the School of Engineering in closer fellowship, to promote the general welfare of the School of Engineering and of the University at large, to foster activities of the engineering organizations recognized by the University, and to advance the profession of engineering in general.

1948-49

President.—Philius H. Girouard, B.S. in M.E. 1926; 3401 Patterson Street, Washington, D. C.

Vice President.—Merwyn N. McKnight, B.S. in M.E. 1938, B.E.E. 1941; 1704 N. Calvert Street, Arlington, Va.

Recording Secretary.—Robert G. Weston, B.E.E. 1943; 1818 N. Patrick Henry Drive, Arlington, Va.

Corresponding Secretary.—J. Harold Link, B.S. in E.E. 1940; 2500 K Street, Washington, D. C.

Executive Committee:

Henry H. Snelling, B.S. in M.E. 1913; 6708 45th Street, Chevy Chase, Md.

Thomas R. Edmonston, B.S. in C.E. 1937; 606 Pickwick Lane, Chevy Chase, Md.

Daniel O. Hunter, B.S. in E.E. 1937; 4774 N. 25th Street, Arlington, Va.

THE GEORGE WASHINGTON UNIVERSITY NURSES ASSOCIATION

The George Washington University Nurses Association was organized in 1914. In 1936 this organization was made an integral part of the General Alumni Association, and graduates of the School of Nursing were accorded associate membership. The objects of the Association are to hold in unison the graduates of the George Washington University Hospital School for Nurses, to care for its sick members, and to promote the advance of nursing in the interest of the George Washington University Hospital.

1948-49

President.—Ruth Poindexter, N.Cert. 1924; 1815 17th Street, Washington, D. C.

Vice President.—Laura Sandres, N.Cert. 1924; 1701 16th Street, Washington, D. C.

Secretary.—Mrs. Katherine McCready del Valle, N.Cert. 1928; 1852 Columbia Road, Washington, D. C.

Treasurer.—Mrs. Mary Schmid Kelley, N.Cert. 1929; 1737 Hobart Street, Washington, D. C.

REGIONAL ALUMNI CLUBS

Regional alumni clubs sponsored by the General Alumni Association are maintained in the following places: Little Rock, Ark.; Los Angeles, Calif.; Northern California; Denver, Colo.; Chicago, Ill.; Portland, Maine; Baltimore, Md.; Detroit, Mich.; Kansas City, Mo.; St. Louis, Mo.; Newark, N. J.; Brooklyn, N. Y.; New York, N. Y.; Cleveland, Ohio; Toledo, Ohio; the Ohio River Valley (Cincinnati and adjacent sections of Kentucky and Ohio); Oklahoma City, Okla.; Pittsburgh,

Pa.; Dallas, Tex.; Salt Lake City, Utah; Richmond, Va.; Seattle, Wash.; Milwaukee, Wis.; New England; Philippine Islands; Puerto Rico.

Information about the officers and activities of these clubs may be obtained from the Director of Alumni Relations of the University.

THE GRADUATE ENDOWMENT FUND

The Graduate Endowment Fund was founded by the class of 1926 with the object of providing endowment to be used for the development of the University. Membership is limited to seniors and graduates who sign a pledge of \$100, payable annually in ten equal installments.

The pledge notes and funds are held in trust. When the principal reaches the sum of \$100,000, the Board of Administrators of the Fund may pay to the University such sums as it may vote for erection of buildings, acquisition of sites, maintenance, and purchase of equipment. At no time may money be drawn so as to leave a balance of less than \$50,000 on deposit.

On request, the Director of Alumni Relations of the University will furnish pledge blanks to alumni.

THE COLUMBIAN WOMEN

The objects of this organization are (1) the promotion of acquaintanceship among its members; (2) the advancement of women by the founding of scholarships in the various departments of the University; and (3) the promotion of the interests of the University.

MEMBERSHIP

1. The following persons shall be eligible for active membership: (a) any woman who for one year has been a regularly registered student in The George Washington University, provided that she shall have received credit for thirty hours of work; (b) any woman member of the Faculties or Board of Trustees, any woman on the administrative staff; the wife or recognized head of the household of any member of the Faculties, Board of Trustees, or of the administrative staff; (c) any woman recipient of an honorary degree from the University.

1948-49

President.—Ruby Nevins, A.B. and T.D. 1917, A.M. 1922; The Kenesaw, Washington, D. C.

First Vice President.—Mrs. Thomas Canigas, 4605 Charleston Terrace, Washington, D. C.

Second Vice President.—Miss Winifred Alvather, B.S. 1942; 3521 W
Place, Washington, D. C.

Corresponding Secretary.—Mrs. Edgar W. Woolard; 1232 30th Street, Washington, D. C.

Assistant Corresponding Secretary.—Elizabeth Benson, A.B. in Ed. 1931; Gallaudet College, Florida Avenue at 7th Street, NE., Washington, D. C.

Recording Secretary.—Mrs. J. Beaty Griffith, A.B. 1922; 1746 K Street, Washington, D. C.

Treasurer.—Mrs. George Blanchard, A.B. 1916; 806 Massachusetts Avenue, NE., Washington, D. C.

Historian.—Irene Pistorio, B.S. in Arch. 1904; 2442 20th Street, Washington, D. C.

THE WOMEN'S BOARD OF THE GEORGE WASHINGTON
UNIVERSITY HOSPITAL

The object of this organization is to aid in every way the interests and advancement of The George Washington University Hospital. Meetings are held on the first Wednesday of each month, October to June, inclusive. Inquiries regarding membership should be addressed to the Corresponding Secretary, The George Washington University, Washington 6, D. C.

1948-49

President.—Mrs. Cloyd Heck Marvin

Vice President.—Mrs. G. Louis Weller

Vice President.—Mrs. Gilbert Grosvenor

Vice President.—Mrs. Walter A. Bloedorn

Recording Secretary.—Mrs. Henry W. Herzog.

Corresponding Secretary.—Mrs. Glen M. Vickrey

Assistant Corresponding Secretary.—Mrs. W. Y. Handy

Treasurer.—Mrs. John Withrow Brewer

Assistant Treasurer.—Mrs. Barton W. Richwine

HONOR SOCIETIES

Phi Beta Kappa.—A national honor society recognizing "outstanding intellectual capacity well employed" in the field of liberal arts and sciences. Senior and junior students who are candidates for the degree of Bachelor of Arts or Bachelor of Science in Columbian College (in exceptional cases, senior and junior students in other non-professional divisions of the University) and who have shown broad cultural interests, distinguished scholarly achievement, high character, general promise, and scholarly ideals may, to a number not exceeding 15 per cent of a class, be elected to membership by the Faculty members of the Alpha Chapter of the District of Columbia.

Sigma Xi.—A national scientific honor society, the purpose of which is to encourage original investigation in science pure and applied. Outstanding graduate students in the sciences are eligible for full membership, and undergraduates who have shown marked ability in research may be elected to associate membership.

Order of the Coif.—A national legal society, the purpose of which is to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship. Members are elected each year from the highest 10 per cent of the graduating class of the Law School.

Sigma Tau.—A national engineering fraternity, the purpose of which is to recognize scholarship and professional attainment.

Alpha Lambda Delta.—A national fraternity established to encourage and reward high scholarship and attainment, membership in which is limited to those freshmen women who attain a scholastic average of at least 3.50.

Artus.—A national economic society.

Delphi.—An intersorority society.

Delta Sigma Rho.—A national forensic honor society.

Gate and Key.—An interfraternity society.

Iota Sigma Pi.—A national honorary chemical society for women.

Kappa Kappa Psi.—A national honor society for college bandmen.

Mortar Board.—A national honorary society for senior college women, stressing leadership, scholarship, and service.

Omicron Delta Kappa.—A national fraternity emphasizing leadership in extracurricular activities.

Phi Delta Kappa.—A national honorary fraternity for men in the field of education.

Phi Eta Sigma.—A national fraternity, established to encourage and reward high scholarship and attainment, membership in which is limited to those freshman men who attain a scholastic average of at least 3.50.

Pi Delta Epsilon.—A national honorary collegiate journalism fraternity.

Pi Epsilon Delta.—National Collegiate Players.

Pi Gamma Mu.—A national social-science society.

Pi Lambda Theta.—A national honorary fraternity for women in the field of education.

Psi Chi.—A national honorary psychology fraternity.

Sigma Pi Sigma.—A national honorary physics fraternity.

Sigma Rho.—Honorary research society in physiology.

Smith-Reed-Russell Society.—A scholastic society in the School of Medicine. Students of the third and fourth years who maintain a scholastic average of 86 per cent are eligible for associate membership.

William Beaumont Medical Society.—A society founded with the object of encouraging and stimulating medical students in work of individual investigation.

STUDENT ORGANIZATIONS

PROFESSIONAL ORGANIZATIONS

Alpha Chi Sigma (chemistry), Alpha Epsilon Iota (medicine), Alpha Kappa Psi (commerce and economics), Alpha Pi Epsilon (home economics), Alpha Zeta Omega (pharmacy), American Institute of Electrical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Radio Engineers, Chi Upsilon (geology), Delta Phi Epsilon (foreign service), Delta Theta Phi (law), Future Teachers of America, Gamma Eta Gamma (law), Kappa Beta Pi (law), Nu Sigma Nu (medicine), Phi Alpha Delta (law), Phi Chi (medicine), Phi Delta Delta (law), Phi Delta Epsilon (medicine), Phi Delta Gamma (graduate), Phi Delta Phi (law), Phi Pi Epsilon (foreign service), The Society for the Advancement of Management, Student Branch American Pharmaceutical Association, Theta Tau (engineering).

SOCIAL FRATERNITIES

Sigma Chi, Kappa Sigma, Kappa Alpha, Theta Delta Chi, Phi Sigma Kappa, Sigma Alpha Epsilon, Sigma Phi Epsilon, Phi Alpha, Sigma Nu, Acacia, Tau Kappa Epsilon, Pi Kappa Alpha, Argonauts, Tau Epsilon Phi, Alpha Epsilon Pi, Delta Tau Delta.

SOCIAL SORORITIES

Pi Beta Phi, Chi Omega, Sigma Kappa, Phi Mu, Alpha Delta Pi, Delta Zeta, Kappa Delta, Phi Sigma Sigma, Zeta Tau Alpha, Kappa Kappa Gamma, Delta Gamma, Kappa Alpha Theta, Omicron Alpha.

DEPARTMENTAL CLUBS

Art Club, Case Club, Charles Clinton Swisher History Club, Colonial Forensics Society, Dance Production Groups I, II, III, El Club Español, Engineering Council, George Washington University Geographical Society, Home Economics Club, Howard E. Kane—A.F.A. King Obstetrical Society, Le Cercle Français, Lester F. Ward Sociological Society, Literary Club, Mortar and Pestle (pharmacy), Psychology Club, Radio Workshop, Schoenteld Verein, Student Bar Association, Tironians (secretarial).

RELIGIOUS ORGANIZATIONS

Baptist Student Union, B'nai B'rith Hillel Foundation, Canterbury Club, Christian Science Organization, Lutheran Student Association, Newman Club, Religious Council, Wesley Club, Westminster Foundation.

MUSICAL ORGANIZATIONS

Girls' Glee Club, Men's Glee Club, University Band.

STUDENT PUBLICATIONS

The Cherry Tree (the annual), *The University Hatchet* (weekly newspaper), *The George Washington Law Review*, *Mecheleci* (engineers' publication), *The Percolator* (pharmaceutical publication).

OTHER ACTIVITIES

Alpha Theta Nu (scholarship winners), Big Sisters, Cogs, Colonial Boosters, Current Affairs Club, Hellenic Society, Independent Students' Association, Inter-fraternity Council, Inter-fraternity Pledge Council, International Students' Society, Junior Panhellenic Association, Martha Washington Club, Masonic Club, Pistol Association, Sailing Association, Senior Panhellenic Association, Staughton Hall Council, Strong Hall Council, Student Council, Student Veterans of World War II, The George Washington University Players, Women's Recreation Association, World Government Seminar Group.

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THE UNIVERSITY RECORD

SUMMER TERM 1948

FALL AND WINTER TERMS 1948-49

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JUNIOR COLLEGE

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Persson, Norman Edward	D.C.	Swartz, Eugene	D.C.
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Preston, Walter Harlan	D.C.	Thaler, Milton	Va.
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Randall, Richard Rainier	D.C.	Trentacosti, Rosario Charles	N.Y.
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FEBRUARY 22, 1949

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Bader, Michael Haley	Calif.	Dierks, John Henry	Pa.
Baisinger, Grace Chapolis	D.C.	Dietz, Glenn Allen	Fla.
(With distinction)		Donaldson, Allyn Capron, Jr.	D.C.
Baker, William Clinton	D.C.	Dorie, William Matthew	N.Y.
Baker, William Harold	Ill.	Dougherty, Thomas James	N.D.
Bartelloni, Henry John	Mass.	Duncan, John David	W.Va.
Bay, Paul Georgeoff	Ill.	Duncan, John Ogilvy	Va.
Beaver, Carol Westbrook	D.C.	Dunn, Arnold Samuel	N.Y.
Bergman, William Hunter	D.C.	Dyck, William Donald	D.C.
Berry, Seymour	N.Y.	Eberhardt, Thomas John	Pa.
Bevins, Roswell Morton	Vt.	Edwards, Marion William	Kans.
Billingsly, Charles Marion	Ill.	Edwards, Rostand Hurbitt	Okla.
Bowen, Verna Sarah	Utah	Elkin, Benjamin	Ill.
Bradford, Ralph Gordon	Va.	Enriquez, Jean Gordon	Va.
Brodnan, Betty Jane	Wis.	Evans, John Penhallow, Jr.	D.C.
(With distinction)		Everett, Gerald Waddell	D.C.
Brooks, Nellie Walker	Va.	Falatto, Thomas Stephen	Pa.
Brown, Dennis David	N.J.	Falk, Stephen Ackley	Conn.
Brown, Donald Arthur	D.C.	Farris, Frederick Joseph	Va.
Bruce, Charles Warren	Mass.	(With distinction)	
Buck, Barbara Lou	Va.	Faulkner, Richard Fulton	Va.
Buck, Samuel Otho	D.C.	Faustman, Donald Milton	Va.
(With distinction)		Featherstonhaugh, Arthur Cambroone III	Md.
Bullough, John Frank	Md.	Fetterolf, Wallace Kermit	Pa.
Bunker, Grace Isabella	Md.	Fleetwood, George Harlan	Del.
Burchard, Kathryn Anne	N.J.	Flexer, Morton	N.Y.
Burgess, Eileen Elizabeth	Mo.	Flynn, Paul Chadwick	Pa.
Burns, Eugene Joseph	N.J.	Fouche, James Edwin	Va.
Caffish, Frank Albert	Wis.	Galloway, Clark Hamilton	N.Y.
Callander, Ann Deeley	Md.	Ginsberg, Julius	N.Y.
Carroll, Douglas Stewart	N.Y.	Goldfarb, Louise Marilyn	D.C.
Chapper, Frank Morris	D.C.	Gottesman, Alexander Morey	Va.
Chin, Robert	D.C.	Gravitz, Melvin A.	D.C.
Chorost, Helen	N.Y.	Guerra, Serafim Lawrence	D.C.
Clark, William Giddings	Md.	Hadlock, Robert Lewis	Kant.
Cohen, Herbert	N.Y.	Hanley, Charles	N.Y.
Courtright, Ann	Md.	Hansen, Walter Daniel	N.Y.
(With distinction)		Harrison, Archibald Chapman, Jr.	D.C.
Craig, George Arthur	Va.	Harrison, Ruth	Pa.
Cumpiano, Brunilda Edmée	N.J.	Harrow, Robert Lee	N.Y.
Daggit, Elizabeth Middleton	Va.	Havens, William Dodge, Jr.	D.C.
Dalonas, John	Va.	Hebert, Paul Edmond	Mass.
Daly, John Joseph	Va.	Hedges, Richard Henry	Md.
Darmstadter, Joel	D.C.		

Hendershot, Gladys Elaine	Md.	Panor, Marie	D.C.
Hendrix, Arthur Keith	D.C.	Pape, Robert Bruce	N.Y.
Hickey, Robert Edmund	Conn.	Parker, John Elliott	D.C.
Hite, Winston, Martin	Va.	Perkins, Edgar Madison, Jr.	D.C.
Hoffman, Conrad Richard	N.Y.	Perlman, Al B.	Wis.
Hollingshead, Robert Sullivan, Jr.	D.C.	Perna, Louis Robert	D.C.
Hude, Harry William	Miss.	Persiani, Rosemary	Va.
Hudson, Robert Ray, Jr.	D.C.	Pettinicchi, Arthur John	N.Y.
(With distinction)		Poch, Donald Richard	Va.
Jacob, John Brevard	D.C.	Porro, Ralph Anthony	N.Y.
Jennings, James Murray	D.C.	Poston, John William	D.C.
Johnson, Clyde George	D.C.	Price, Hoyt Glenn	Va.
Johnson, Patricia Anne	D.C.	Quigs, Barbara Lou	Va.
Jones, Compton	D.C.	Raker, Geraldine Lieblich	Va.
Jones, Robert John	Ohio	Reagan, Ralph Clifford	Tenn.
Jonson, Carl Egerton	Va.	Rhodes, Eric Foster	D.C.
Kananack, Barbara Audrey	N.Y.	Riggs, Bradner Charles	Va.
Kantrowitz, Gerald	Conn.	Roberts, Mary Martitia	Ark.
Kerr, Roger Theodore	Va.	Robertson, Wilbert Joseph	D.C.
Kinche, Aaron	D.C.	Rosenberg, Walter Saul	N.Y.
Kirby, Homer Hugh	D.C.	Ruboy, Jordan Sumner	Mass.
Kittle, John Lewis	Miss.	Ryan, Edward Joseph	Pa.
Klein, Leonard Adam	Ohio	Ryan, Edward Thomas, Jr.	R.I.
Kolker, Irvin	D.C.	Schachtel, Norman Herman	N.J.
Kraller, John Edward	N.Y.	Scheckel, William Howard	Md.
Kriner, George Marion	D.C.	Scheltema, Rudolph Siegfried	Md.
Kudatsky, Nathan	D.C.	Schreiner, Margaret Abramitis	N.J.
Kyle, Hugh Campbell, Jr.	Mo.	Schuman, Larry	N.Y.
Ladiaky, Bernice Edythe	N.Y.	Sebastian, Virginia Jean	Conn.
Lambert, Robert Lyman	D.C.	Shamigian, Zuvart	D.C.
Larkin, Maureen	D.C.	Shanks, Oscar Eugene, Jr.	Md.
Lawson, Howard Birger	Va.	Sharkey, James Francis	Pa.
Layton, Cleo Franklin	Pa.	Shelly, George William	N.J.
Leckband, Paul	Iowa	Shouse, William James	Ky.
Leichter, Jerome Raymond	N.J.	Simon, Samuel Louis	Mass.
Levin, Edward	Va.	Singer, Stanley Irvin	D.C.
Levy, George Joseph Eli	Mass.	Singman, Julian Howard	D.C.
Lindsay, Douglas Edward	N.Y.	(With distinction)	
Longyear, Robert Rudston	D.C.	Sloane, Edward Frederick	Md.
Love, James William	Pa.	Smith, David Bushnell	D.C.
Lundgren, Henry Willard	Wash.	Smith, Walker William	N.C.
Lundgren, Suzanne Stone	D.C.	Sorell, Gerald Paul	N.Y.
Luscomb, Charles Edward, Jr.	Conn.	Steece, Philip John	D.C.
MacNeil, Joseph Hector	D.C.	Stein, Orren Fischer	D.C.
Magner, Joseph Paul	D.C.	Steinert, Leif Magne Emil	N.Y.
Mann, Robert Urban	D.C.	Steininger, Eugene Beachel	Pa.
Marks, Donald	N.Y.	Stone, Betty Trump	D.C.
Martusevich, Gregory Paul	N.Y.	Stratton, Eugene Aubrey	Mass.
Mason, Gwendolyn Hunsicker	Va.	Strawbridge, Lawrence William	D.C.
(With distinction)		Streett, Burnett Irving	D.C.
Mathias, Richard Bingham	D.C.	Susser, Arthur	N.J.
Mauriello, Nicholas Michael	N.J.	Tanner, Thomas Louis, Jr.	Va.
McCall, Chester Hayden, Jr.	Mo.	Taute, Carl Max	D.C.
McDonough, Raymond John	N.Y.	Teeter, Lawrence William	D.C.
McDuffee, Lois June	Va.	Thomas, Howard Adams	Va.
McNiff, Philip Aloysius	N.Y.	Thompson, Dorothy Morse	D.C.
Meznard, Melvin L.	D.C.	Thompson, Elizabeth Anne	D.C.
Meyer, Lucille W.	Tex.	Tickin, Howard Erwin	D.C.
Michaud, Lewellyn Richard	Maine	Trimble, Mary Allan	D.C.
Miller, Samuel Duncan	D.C.	Trumbull, Robert Gay, Jr.	R.I.
Moers, John Eden	Va.	Tully, Richard Edward	Ill.
Moore, Springs Reid	Md.	Turney, Joanne	Calif.
Morales, Donald Chauncey	Md.	Vann, Maurine Elizabeth	Md.
Moren, Clarence Gill	N.Y.	Vorbach, Charles Frederick	D.C.
Morrison, Robert Reid	D.C.	Walker, Russell Louis	Va.
Morrissey, Raymond	D.C.	Walter, Richard Henry	D.C.
Mueller, Peter Klaus	D.C.	Warmack, William Davies	D.C.
Muse, Claude Revere, Jr.	D.C.	Wells, Richard Glenn	Md.
Myrick, Donald Marshall	N.Y.	West, William Rovster	Va.
(With distinction)		White, Robert Bellarmine	D.C.
Nolan, Sarah Marie	D.C.	Wiener, Harvey	Ill.
Ormond, William Berkeley	Md.	Wolfe, Allen Lee	Mo.
Ostrich, Ralph	D.C.	Wood, Harry Eugene	S.C.

Fleisher, Eric Wilfrid	D.C.	Jungeblut, Helen Odeja	N.J.
Foreman, Joan Maxine	D.C.	Kenyon, Nathaniel Colver	Ohio
Foreman, Mary Ann	Va.	Kerr, Graham Stickley	D.C.
Fratkin, Rayleona	D.C.	Kozales, Adolphe Charles	D.C.
Fritz, Charles Walter	D.C.	Kurstein, Sidney Leonard	D.C.
Gainey, Burtus Allen	D.C.	Klepak, Philip Harold	Va.
Gallup, Meredith Hale	D.C.	(With distinction)	
Gamache, John Arthur	Mich.	Lancaster, Robert E., Jr.	D.C.
(With distinction)		Larrick, Benjamin Franklin	Va.
Gemmell, Ronald Harvey	Calif.	Landskron, Marvin	N.Y.
Generelly, Richard Fleury	D.C.	Laughlin, John G., Jr.	Kans.
Gerhard, Edmund James	Va.	Lear, Joyce Elizabeth	D.C.
Gibbs, Verne Wesley	Calif.	Leavy, Horace James	N.Y.
Ginsberg, David Kellner	D.C.	Lee, Murray Kent	Va.
Givot, Martin Lionel	D.C.	Lesser, Robert George	Mass.
Glaser, Stanley	N.Y.	LesStrang, Jacques Earle	D.C.
Glazer, Harry Bernard	D.C.	Levin, Irving	N.J.
Goldberg, Charles Herbert	D.C.	Lewis, Edward, Jr.	D.C.
Goodman, Sanford Gerald	N.Y.	Lief, Donald Wolfe	Va.
Grady, Marcia Anne	D.C.	Lindsey, Rosamond O'Neil	Fla.
Graf, Alfred Geza	N.Y.	Lipkey, James Ray	D.C.
Graves, John Rufus	Mo.	Lippitt, Thomas Perry	N.Y.
Gray, Frederick Charles, Jr.	Va.	Lishchiner, Manon Ehrenkrantz	Va.
Greaber, Vernon Elmer	D.C.	Lloyd, Albert Lawrence, Jr.	
Green, Enid Caldwell	S.C.	(With distinction)	Ohio
Green, Robert Henry	Md.	Lombardi, Reilly Robert	D.C.
Greenstein, Paul Samuel	D.C.	Lowenthal, Herman	D.C.
Grinnell, John Robert	Mass.	Lum, David Walker	Tenn.
Gritz, Alexander	D.C.	Lush, Roberta Cregier	Md.
Gulick, Richard Green	Va.	Lynch, John William	D.C.
Gump, Lyndon Jay	Md.	MacCormick, Willfred Raymond	Va.
Gunner, Charles Anthony	N.J.	MacDougall, Dougall	N.Y.
Guthrie, William Joseph, Jr.	Mass.	Maggio, Paul Angelo	D.C.
Haddad, Adele Sylvia	Pa.	Main, William Elmer	Ga.
Hager, Eileen Mae	D.C.	Malaier, Elbert Hubbard	Pa.
Haight, Donald James	Va.	Mallgrave, William John	Colo.
Harlan, John Cooper	Va.	Manning, Louis Meneghini	Pa.
Harloff, William Carroll	Md.	Maravalli, Eugenia Rose	N.Y.
Harrison, Robert Scott	D.C.	March, Christian Laurin, Jr.	D.C.
Hart, Harold Matthews, Jr.	Ill.	Marclay, Elliott William	D.C.
(With distinction)		Marks, Leta Sue	Va.
Hausman, Helen Mandelowitz	D.C.	Martin, Daniel Walter	
Hayes, Edward Matthew, Jr.	Maine	(With distinction)	N.Y.
(With distinction)		Martin, Peter John	N.J.
Heinzl, Joseph Russell	D.C.	Martins, Frank	D.C.
Herman, Cecile	D.C.	Mathieson, Walter Whitman, Jr.	Md.
Hodge, William Rust	N.Y.	Mattingly, Anne Mathilde	D.C.
Hoffmann, Joan	Ala.	Mattson, Arthur Richard, Jr.	Md.
Holdsambeck, Sam	Va.	Maxwell, Frederick Brooks, Jr.	Pa.
Hollingsworth, Russell Kuhner, Jr.	Pa.	Mazero, John Robert	Iowa
Hollis, Elda Lorraine	D.C.	McCord, Franklin Otto	D.C.
Hopkins, Stephen Cornwell, Jr.	D.C.	McDowell, Janet Beverly	N.J.
Hopper, Thomas Bradford, Jr.	Calif.	McKeever, Kenneth Francis	Ark.
Houk, Jo Anne	D.C.	McLees, John Skelton	D.C.
Howell, David Mitchell	N.J.	Merrill, Nancy Elizabeth	Va.
Howett, Jay Miller	N.Y.	Merritt, Hobart Witten	D.C.
Hyrt, William George	N.Y.	Meyer, Hanny	N.D.
Immen, Norbert George	D.C.	Meyers, Beverly Anne	Iowa
Innes, Yvonne Keeble	Md.	Michels, Ruth Marie	D.C.
Jackson, Marjorie Ann	Mass.	Miles, Chester Ellsworth	D.C.
Jackson, Robert McClelland	D.C.	Militzer, Gustave David	D.C.
Jacobs, Sidney Powell, Jr.	Ohio	Mohler, John Robbins	Ga.
Jarema, Frank Gerald	Ohio	Moore, Alvin	D.C.
Johnnes, Peretz William	D.C.	Moore, Lusadel	N.J.
Johnson, Daniel Lynn	Va.	Moverman, Ruth Jean	D.C.
Johnson, Elise Hill	Md.	Muehlhaue, William	Tenn.
Johnson, Frank Tracy	Calif.	Murphey, Elton Ira, Jr.	D.C.
Johnstone, Janice Bronson	N.J.	Nahme, Leonard Lee	N.Y.
Jones, Ailsa Grierson	D.C.	Nargizian, Edward Arsen	Md.
Jones, Doris Jeanne	N.J.	Naylor, Guy Rodgers, Jr.	Minn.
Jones, Robert Franks	Ill.	Neenan, Elmer Bruner	Mo.
Julin, Joseph Richard	N.J.	Nemeth, Joe	
Jungeblut, Edward Wilmont		(With distinction)	

Niefeld, Herbert	D.C.	Somers, Nelson Roy	N.Y.
Nonemaker, Charles Henry	Pa.	Sorenson, Barbara Jeanne	N.Y.
Offutt, Eleanor Rebekah	D.C.	Spatz, Murray	N.Y.
Olmstead, Normand Henry	N.Y.	Spraker, Glenna Mary	Iowa
Pacl, Thomas Rudolph, Jr.	Va.	Stark, Lois Iva	Va.
Parker, Richard Dale	Md.	Steele, Cynthia	D.C.
Parkinson, Kenneth Wells	Md.	Stephenson, Stephen Hall	Va.
Parsell, David Elwood	Md.	Stevens, John Cameron	Mass.
Patterson, William Amos	D.C.	Stieg, Clare Ann	Va.
Paul, Howard Cochran	Pa.	Stockstill, Louis R.	Okl.
Paul, LeRoy Spencer	D.C.	Stout, Carol Margaret	D.C.
Pearlman, Belle	D.C.	(With distinction)	
Peter, Thomas Armistead II	Ohio	Strawbridge, Phyllis Jeane	D.C.
Peterson, Harvey Wayne	D.C.	Sullivan, William Franklin	Md.
Pickett, Jack Milton	Va.	Suppes, Joan Louise	Md.
Pietras, Chester Joseph	Mass.	Sweete, Edward Chiles	Ill.
Pimentel, Rafael Lebron	D.C.	Sweedler, Barbara Ruth	N.Y.
Plugge, Kathryn	D.C.	Szoka, Charles Eugene	Pa.
Plyer, Betty Lou Robinson	Md.	Tatarsky, Walter	Pa.
Pollard, William Otis	Va.	Taylor, David Franklin	Idaho
Pollock, Robert Emmett	Va.	Taylor, Robert John	Va.
Porter, Bennet Allen, Jr.	Md.	Teagle, Ernest Howard	D.C.
Porter, Neil Alfred	Mo.	Teeter, Virginia Joyce	D.C.
Porter, Ross George	Utah	Thompson, Arthur Brown, Jr.	Pa.
Powdermaker, Paula Claire	N.J.	Thompson, Mary Lou	Va.
Purvis, Curtis Carlisle	Va.	Thompson, Russell Claude, Jr.	Va.
Quenstedt, Warren Daley	D.C.	Tichenor, Marjorie Ann	N.J.
Randa, Mary Audrey	D.C.	Tighe, John Francis	N.Y.
Raymond, Barbara June	Mass.	Tomberg, Sybil Blanche	N.Y.
Reid, Alexander Blann	D.C.	Tor, Mildred Helen	D.C.
Reque, Robert Russell	D.C.	Torchin, Norman Gilbert	D.C.
Rivera, Andrés	Puerto Rico	Tron, Robert Augustus, Jr.	D.C.
Roberson, James Richardson	Va.	Tsuda, Carol Setsuko	D.C.
Roberson, William Donald	D.C.	Twery, Betty Jean	D.C.
Roberts, Ben Lomond	Md.	Valenzi, Joseph Thomas	N.Y.
Roberts, Russell Meade	D.C.	Van Riswick, Guy Everett	Va.
Robin, Bennett Allen	D.C.	Van Staden, George Arthur	N.Y.
Rogers, Charlotte David	Ky.	Venezky, Edith Rita	D.C.
Roos, Robert Vincent	N.Y.	(With distinction)	
Rose, William George, Jr.	Md.	Villella, Gerald Anthony	Md.
Rosendorf, Betty Rose	D.C.	Virta, Earl Edward, Jr.	Va.
Rowan, John Carey	Pa.	Walker, Michael Jerald	N.J.
Ruben, Max Samuel	W.Va.	Walker, Thomas Jefferson	Miss.
Rubin, Arnold Donald	N.J.	Watkins, Jeanene	Utah
Rubin, Sally Maxine	N.J.	Weasmer, Charles Brent	D.C.
Rupert, Mary Martha	Ga.	Webber, Ruth Rebecca	Fla.
Savage, Walter Benedict	N.J.	Weiss, Peter Joseph	D.C.
Schmoyer, Mary Elizabeth	Va.	Weissinger, Phyllis Bate	D.C.
Schocket, Charles Lewis	N.J.	Wellington, Benjamin	N.Y.
Scholz, Walter Ernst	Ill.	Wessel, Robert Glenn	Ill.
Schultz, William Harrison	Pa.	Westbrook, William Hughes	Pa.
Scruggs, William Joseph	D.C.	(With distinction)	
Sears, Earle Vincent	D.C.	White, Carol Humes	Va.
Seybert, Harry David	D.C.	Whitener, Thomas Grady	Md.
Shalowitz, Ernest Maurice	D.C.	Whitner, Jacqueline Winwood	Va.
Shapiro, Laura Leib	N.Y.	Wiggins, Patricia Ann	D.C.
Shearer, Nancy Lee	Md.	Wildman, Janet	D.C.
Shelhorse, George Waller III	Pa.	(With distinction)	
Sheppard, Elizabeth Anne	D.C.	Willev, Douglas Jerome	Md.
(With distinction)		Williams, Marvin Edward	Tenn.
Sherwin, William Winsor	Va.	Williams, Thomas Richardson	Md.
Shine, Warren Steven	Mass.	Wineberg, John Walter	Pa.
Shipman, Harvey Andrew	Mass.	Witham, Robert Carey	Md.
Shipp, Charles Kenneth	Va.	Wold, Henry Edward	D.C.
Silva, Harold	Tenn.	Worden, Dwight Geer	N.Y.
Silverman, David	D.C.	Wray, James Laban	Ark.
Simmons, Delford Edgar	D.C.	Yocum, Gloria Arden	N.I.
Singer, Thomas Eric	Mass.	Yost, William Adams	D.C.
Skinner, Paul Artemus	Mass.	Zanner, Albert William, Jr.	D.C.
Smith, Jennings Talbot	D.C.	Zeidner, Philip Max	N.Y.
Smith, Warren Webster	D.C.	Zelkovitz, Sam	Va.
Smookler, Morton Bernard	D.C.	Zimmer, David Joseph	Md.
Sodd, Mary Ann	D.C.	Zorn, Otto Godfrey	N.Y.

COLUMBIAN COLLEGE

BACHELOR OF ARTS

NOVEMBER 11, 1948

Adams, Edith Meriwether	Fla.	Johnson, John Henry	D.C.
Adams, Robert Melvin	D.C.	Johnson, Leighton Eugene	Minn.
Alvord, Marian	D.C.	Johnston, Milton Kessler	D.C.
Anderton, James Williams	Ark.	Kahn, Fritz Reiner	Md.
Bachman, Helen	Va.	Kalvin, Paul Craig	N.Y.
Baiman, Jerome	N.Y.	Kay, Edwin Jacques	Md.
Baker, Gloria Jeannette	D.C.	Kean, Ruth Gray	D.C.
Baldrige, Marion Cummins	D.C.	Klieger, Walter Aaron	N.J.
Barber, Alvin Barton, Jr.	D.C.	Krueger, John Richard	Nebr.
Barrett, Margaret Judith	D.C.	(Special honors in German)	
Bass, Marvin William	D.C.	Kyriazis, Chris William	Md.
Batley, Beverly Anne	Va.	Larkin, Thomas Dillard	Md.
Baumgarten, Irene	N.Y.	Lenfestey, James Albaugh	Fla.
Benjamin, Betty Ruth	D.C.	Leonard, Elfriede Justine	D.C.
Bonner, Jane Pierce	Va.	Levine, Grace Flax	N.Y.
Borror, Barbara Lee	Va.	Lewis, John Warren	D.C.
Bowen, David	Va.	Lubin, Joseph Meyers	Md.
Bowes, William Thomas	Va.	Ludwig, Helen	N.J.
Boyle, Anthony Francis	N.Y.	(With distinction)	
Bradford, Gordon	N.Y.	MacElhane, Richard	N.Y.
(Special honors in Economics)		(Special honors in English)	
Brentlinger, John Weeks	Va.	Machita, John	N.J.
Bristow, Joseph Quayle	Va.	Magann, Patricia Esmée	D.C.
Brown, Maude Dimple	Ark.	Margolius, Jerome Francis	D.C.
Brudo, Charles Salomon	Wash.	McCain, Thurlow Doane	Wash.
Buckley, Margaret Ellen	D.C.	McEntire, Ferne	Idaho
Burstein, Rena Benson	D.C.	Mezella, Ella Julianna	Pa.
Buser, Elizabeth Anne	D.C.	Millner, Elliott	D.C.
Calkins, Constantia Herbert Hommann	Va.	Minton, George	D.C.
Campbell, Doris Lorraine	Pa.	Moder, Irving	N.Y.
Campo, Victor Charles	Vi.	Morgenstein, Sam A.	Pa.
Cantwell, William James	N.Y.	Murphy, Joseph Alexander, Jr.	D.C.
Chalfin, Seymour	N.Y.	Nelson, Mary Jane	Fla.
Chambers, Jay Lee	D.C.	O'Connor, Charles Frederick III	Va.
Clark, Clara Belle	N.C.	Orlin, Hyman	N.Y.
Cohen, Howard Martin	N.Y.	Pfuntner, Carl Herman	Fla.
Collins, William Timothy	N.Y.	Pherson, John Randolph	D.C.
(With distinction)		Picciano, Eugene Michael	D.C.
Confrey, Magdalene Santell	D.C.	Raphael, Paul Martin	N.Y.
Cope, Nancy FitzGerald	Pa.	Reed, Stella Swingle	D.C.
Corliss, Earl, Jr.	Okla.	(With distinction)	
Crews, Frederick Donovan	Fla.	Rovner, Philip	Pa.
Curry, Stowers Leigh	Va.	(With distinction)	
Dalsheim, Henry Monroe	N.Y.	Schutz, Melvin	D.C.
Darmohray, Edward Joseph	Md.	(With distinction—Special honors	
Davis, Dale Miller	D.C.	in English)	
Deasy, John Paul	Ohio	Schwartz, Helen Janet	D.C.
Depue, Margaret Van Nostrand	Va.	Senft, Oscar Leo	Okla.
Derrick, Duane Greenwood	Utah	Shannon, Cynthia Farrell	D.C.
Devan, Thomas Arthur	D.C.	Shute, Kenneth Walter	Va.
Drew, Norma Jean	Mont.	Sletten, Robert Eugene	N.D.
Dwass, Meyer	Conn.	Stephens, Eugene Penley	Maine
(With distinction)		Stolanski, C. Robert	Pa.
Einheber, Albert	Pa.	Stone, Karl Lotter	D.C.
Faust, James Emory	D.C.	Strickman, Louis	N.Y.
Ferguson, Mary Virginia Robins	Ark.	Suwerkup, Maryjo	Nev.
Fisher, Ann Katherine	Va.	Tabler, Grayson Brust	W.Va.
Garrett, Patricia Ann	D.C.	Thienel, Phillip M.	Ill.
Glisson, Janet Maria	Va.	Thompson, Eleanor Lee	Md.
Goldstein, Morton	N.Y.	Thorn, Patricia Alice	Pa.
Green, Samuel	D.C.	Tileston, Perley Dominic	Ill.
Harman, Hugh Huebner	N.Y.	Toel, Myra Nan	Md.
Haxton, Richard Irving	Md.	Trolson, Faye Eleanor	Tenn.
Herbert, Edward Leslie	D.C.	Voerge, Helen Lily	Ga.
Herzbrun, Nancy	D.C.	Vroom, Oliver Evans	D.C.
Houff, Janet Mildred	D.C.	Wade, Richard Rudolph	Ohio

Warren, Virginia Nesbitt
(With distinction)
Weaver, Douglas Price
Welsh, James William
Wilson, Grace Cunard
Wilton, Francis William

Va. Wolfenson, Jay Warren
D.C. Wolfe, Lenard Lee
Tez. Wooddell, George Preston
D.C. Young, Donald Earl
Maine (Special honors in Economics)
Zichterman, Harry William

D.C.
Pa.
Fla.
Pa.
Ill.

FEBRUARY 22, 1949

Andree, Betty Louise
Applebaum, Helene Joan
Avnet, Zelda Siller
Barnes, Duard Roof
Barrington, Phyllis Elizabeth
Bass, Charles White
Bates, Frederick LeRoy
Belant, Bernard Brian
Bernstein, Stanley Paul
Berry, Zelda Bertha
Bloch, Robert Oakleigh
Booker, Lewis Albert
Bowler, John Andrew, Jr.
Brown, Agnes Marie
Cafritz, Isobel
Calvo, Mary Alicia
Carlson, Howard Kenneth
Carroll, Norman Sellman
Coalson, Thomas Ernest
Constantine, David
Costa, Robert Oliver
Cound, John James
Crane, Esther Sibyl
Crane, Joan Nancy
Cummings, Lilla Burt
Dalzell, Harry Blackburn
Davis, Barbara Jean
Demos, Frances Louise
DeMott, Benjamin Haile
(With distinction)
Doyle, Mahlon Eugene
Dreisenstok, Erwin Milton
Fitzpatrick, June
(With distinction)
Fogelgren, Agnes Marie
Giles, Mary Elizabeth
Grant, Charmian Ernestine
Greenwold, Charlis Smaison
Grenadier, Albert Harold
Grimwood, Rebecca Foxworth
Harley, Claire
Harris, Paul Austin
(Special honors in English)
Harris, Ruth Ann
Harron, Meyer Jacob
Henderson, Helen Neel
Hoke, Neil Herman
Hollingshead, Robert Sullivan, Jr.
Hughes, Wilton John
Hungerford, James Ferguson
Hurt, Mary Texas
Jefferson, Alfred Carter
Joel, Lambert Savel
Johnson, Alfred Paul
Johnson, Paul Fogerty
Johnson, William Horace
Kamban, Sibil

Tex. Keefe, Robert Francis
N.Y. Kellman, Sidney
N.Y. King, Mary Mazepa
Ariz. Levitor, Edith Sylvia
Md. Levy, George Joseph Eli
Tenn. Lozan, Elizabeth Bronson
D.C. Long, Paul Robert
D.C. Loomis, Gwendolyn Yvonne
Mass. Lyons, William Stewart
D.C. Mann, Robert Urban
D.C. May, Thomas James
Nebr. Meyer, William Frederick
Va. Nordham, George Washington
D.C. Olaszewski, Doris Morgan
D.C. (With distinction)
D.C. Ostrove, Bertram Ira
Wis. Otterman, Harvey Boyd, Jr.
Va. Parkes, James Lloyd
Va. Persian, John Gregory
Ill. Purcell, Patricia Eileen
Hawaii Quick, Elsie McQueen
Va. Rayack, Elton
N.M. (With distinction)
Va. Rice, Millard Berger, Jr.
Pa. Rogers, Rachel Cauldwell
Md. Rosenthal, Harold
Fla. Rowe, Willis Case
Ill. Rutland, Herbert Ross, Jr.
N.Y. Sacharoff, Victor
N.Y. Sagendorf, Jack Bertolette
Md. Salomon, Barbara Irene
Pa. A.B. 1946, University of Chicago
Sanborn, Henry Norris
D.C. Schneiberg, Rosalyn
Pa. Schnell, William Cardigan
D.C. Schwarzman, Estelle
D.C. Simmons, Joseph Alvin
Va. Smith, Patricia Ann
D.C. Spiegel, Morton Lee
D.C. Strupp, Werner
Va. Stuart, John Bruce, Jr.
Okla. Tashian, Lee Charles
Taylor, Irving Henry, Jr.
(With distinction)
Pa. Todd, John George
Va. Vaughan, Leonard Walton
(With distinction—Special honors
in Psychology)
N.Y. Vernoff, Samuel
D.C. Voneiff, John Dunbar
D.C. White, Kenneth Woodward
Md. Wilkerson, John Krantz, Jr.
D.C. Williamson, Robert Ernest
Calif. Wilson, Noel Charles
Md. Wooden, Donald Gminder
N.Y. Zucker, Isidore

Mass.
Pa.
Fla.
Va.
Mass.
D.C.
Pa.
Tex.
D.C.
D.C.
Mass.
Ark.
N.J.
Md.
N.Y.
Va.
Mass.
Va.
Minn.
N.C.
N.Y.
Va.
N.J.
Md.
D.C.
D.C.
N.J.
D.C.
Md.
D.C.
Pa.
D.C.
D.C.
Va.
D.C.
D.C.
Va.
Md.
Va.
Pa.
Va.
N.Y.
D.C.
D.C.
Md.
D.C.
Calif.
Md.
N.Y.

JUNE 1, 1949

Applestein, David
Arkoian, Garabad
Babcock, Margaret Shippen

D.C. Badger, Thomas Jenkins
D.C. Bailey, Margaret Allison
Md. Baker, Constance

Va.
Mo.
Fla.

Baldi, Fiorenza Henrietta	D.C.	Gibbons, Della Sue	Va.
Barnett, Robert Alexander	D.C.	Godbey, Gloria Swanson	D.C.
Beall, Elizabeth Ann	D.C.	Gold, Abraham Melvin	Mass.
Beke, Steven	N.J.	Gordon, James Kirke	Va.
Belson, Mae Goldie	D.C.	Gordon, Wanda Przybylski	Mass.
Berlanstein, Jean Bernice	D.C.	Gotschall, Gale Parkinson	Nebr.
Berlinsky, Stanley Louis	D.C.	(With distinction—Special honors	
Bialek, Robert	D.C.	in Economics)	
Blackmore, Helen Hayes	Calif.	Green, William Oliver, Jr.	D.C.
Blee, Holly Jane	N.Y.	Gregory, Elizabeth Ann	Wash.
Bogen, William	D.C.	Gulliver, Ann Derby	Md.
Boin, Jerome King	D.C.	Hall, Allan	N.J.
Bowen, Thales, Jr.	Va.	Hall, Katherine Farragut	D.C.
Boyer, Sarah Lucy	Pa.	Halloran, Julia Ann	D.C.
Bradshaw, Ann Shewell	D.C.	Hamler, Dollie Rubye	Iowa
Brastow, Jerome Duryea	Va.	Hammer, David Edwin, Sr.	Ill.
Brennan, Robert James	N.Y.	Hardin, Dale Wayne	Va.
Brodsky, Herman	Va.	Harris, Robert Hymen	N.Y.
Brooks, Nellie-Walker	D.C.	Harris, Samuel Henry, Jr.	Fla.
Brown, Elsie-Mio	Mont.	Hause, Benton Arlington	D.C.
Bruckner, Raymond Lawrence	Conn.	Hawkins, Elizabeth Louise	W.Va.
Burdaall, Lorna Nell	D.C.	Henesy, Gregory Thomas	Va.
Burns, Robert Lee	D.C.	Higgins, Helen Virginia	Fla.
Burrows, Kenneth Wilson	D.C.	Hirsch, Marilyn Rosalyn	D.C.
Cadeaux, Albert Helale	Tenn.	Howerton, Joseph Benjamin	Md.
Callahan, Martha Anne Howard	D.C.	Hubbell, Sarah Glazier	Va.
Cameron, John William	Va.	Hunton, Richard Edwin	D.C.
Campbell, Charles Frederick	D.C.	Hutter, Samuel	N.Y.
Cappelen, Louise Muntha	D.C.	Jaicks, Agar	Ill.
Chacos, Maria George	Va.	Janke, Edward Frederick, Jr.	N.J.
Chamberlin, Beverly Mann	Va.	Jennings, Mary Claire	Okl.
Clouser, David John	D.C.	Joel, Clark	N.Y.
Cohn, Sylvia	D.C.	Johnson, Eva M.	Md.
Colliflower, Charles Ernest	Va.	Johnson, John Edgar	Ill.
Compton, Minnie Charlotte	D.C.	Jones, Robert John	Ohio
Corrado, Michael Anthony	Iowa	Kaspritzky, Laura Joan	N.J.
Cox, Wallace Keith	Va.	Kavanagh, James Francis	D.C.
Crom, Curtis Griswold	Conn.	Kemp, William George	Md.
Dailey, Catherine Bernice	Va.	Kerr, Horace Eskew	D.C.
Daly, John Joseph	D.C.	Kessinger, James Bennett	La.
Davenport, Cicely Merrian	D.C.	Kibler, Milton Andrew	Md.
Davis, Albert Paul	Va.	Kings, James Cecil	Pa.
Davis, Evelyn Smalling		(With distinction—Special honors	
Davis, Thomas McLellan, Jr.	D.C.	in German)	
Deem, Thomas Richard	Mich.	Klapp, Gloria Marie	D.C.
Deese, Ellin Krauss	Md.	Koach, Joseph Lewis	Pa.
Detty, George William, Jr.	D.C.	Kugelmass, Solomon	N.Y.
Dewberry, Willis Elbert	Va.	Kyriazis, Peter William	Md.
Dobres, Jeanne Louise	Md.	Lachman, Lenora	Md.
DonVito, Pasqual Anthony	Pa.	La Guardia, Alfred Attilio	N.Y.
Duplinsky, Edward Nicholas	Conn.	Lavine, Bess Blafkin	Va.
Eastop, James Edward	Mont.	Layna, Barbara Foote	Va.
Edge, Ruth Marianne	D.C.	Leonard, Orel Klein	D.C.
Eilenberg, David	N.J.	Leslie, Barbara Mason	Conn.
Epstein, Marion	Mass.	Liebow, Elliot	D.C.
Evenson, Marilyn Olia	Va.	Lipscomb, Nancy Harris	Mo.
Faith, Don Carlos	D.C.	Lowalt, Vonnnette Bogan	Md.
Federle, Jesse Alan	Nebr.	Lynn, George Wallace, Jr.	Va.
Feldman, Sol	D.C.	Mansfield, Helen	Ill.
Feltman, Robert Ferree	Va.	Mason, Archibald Osburn, Jr.	Mich.
Fink, Jules	D.C.	Mazel, Ida Adel	Va.
Fish, Joanne Margaret	D.C.	McGraw, Arthur Keith	Va.
Fittou, Harvey Nelson, Jr.	Va.	McGraw, Carrington Belt, Jr.	Va.
Fitzgerald, Donald Edward	D.C.	McHugh, James Marshall, Jr.	D.C.
Foutz, Leslie Robert	D.C.	Mellen, Vera Lastfogel	Va.
Franklin, Maryjo	Md.	Mellor, Carol Krause	D.C.
Freedman, Norma Clare	N.Y.	Merritt, Arthur Donald	D.C.
Fry, Eugene Nathan	D.C.	Metzerott, Kirk Oliver	Minn.
Fulcher, Robert Clinton, Jr.	Md.	Miller, Elaine Sylvia	Va.
Gainen, Leon	N.Y.	Miller, William Francis	Pa.
Gaines, Robert Wesley, Jr.	Va.	Mitchell, Marguerite Amy	Va.
Gendason, Esther Resnick	Md.	Moe, Alfred Brox	Va.
		Moffitt, Meredith	D.C.

Mulling, Jack J.	Ga.	Shields, Rita Katharine	Mont.
Murphy, Joseph Patrick	Va.	Shipley, Nancy Kane	Ky.
Muse, Claude Revere, Jr.	D.C.	Slavin, Joseph George	N.Y.
Myers, Virginia-Anne	Md.	Smith, Richard Cook	Va.
Myerson, Jacob Myer	D.C.	Spaulding, Frances Spruce	Md.
(With distinction)		Stambaugh, Donald John	D.C.
Nahn, Doris	Md.	Stamey, Harry Clay	Pa.
(With distinction—Special honors		Steiner, Otto Thomas	N.Y.
in German)		Stephens, Jack Payne	Md.
Neafsey, John Francis, Jr.	Mass.	(With distinction)	
Nemeth, Joe	Mo.	Stetson, Richard	Md.
(With distinction)		Stevens, Marguerite Dick	D.C.
Neuss, Cecile	N.Y.	Stone, James Robert	D.C.
Newcomb, Margaret Elaine	Mich.	Stroud, Doris Lucia	Mass.
Nolan, Kathleen Mary	D.C.	Sturtevant, Alderic Clarence	Md.
Nolan, William Joseph, Jr.	Conn.	Sugar, Harold Samuel	D.C.
Nubbe, Virgil George	Minn.	Swanson, Betty Anne	N.Y.
Oxholm, Axel Waldemar Henry	Virgin Islands	Thomas, Ruth	Ark.
Paisley, Elizabeth Ann	Va.	Thompson, Geraldine	Oreg.
Pasternack, Ann	Va.	Thurman, Alice Merritt	Va.
Pavlat, Robert Kendall	Md.	Toomey, John Samuel	Tenn.
Pearce, James Tucker	Conn.	(With distinction—Special honors	
Persiani, Rosemary	Va.	in English)	
Peters, Betty Joan	D.C.	Trumbull, Robert Gay, Jr.	R.I.
Pettinichi, Arthur John	N.Y.	Tucker, Lyman Ray	Tex.
Pine, Donald Kay	D.C.	Uhl, Charles Christian	N.Y.
Raum, Phyllis Miriam	D.C.	Umhau, John Bernard, Jr.	D.C.
Reardon, Robert Eugene	W.Va.	Unger, Howard Robert	D.C.
Reynolds, Margaret Mary	Pa.	Warner, William Claflin	Md.
Robinson, Louis	D.C.	Wenger, Edward George	Md.
Roman, James Alvin	Mo.	Wherry, David Colwell	Nebr.
Rosenthal, Melvin Stanley	D.C.	Whiting, Louise Tiffany	Tex.
Rubinstein, Irvin	Md.	Whitmore, Jane Frances	Md.
Ruth, Joseph Young	Pa.	Williams, Patricia	Miss.
Scanlan, Thomas Russel, Jr.	Md.	Wilson, Joyce Marguerite	Ill.
Scarborough, James K.	Miss.	(With distinction)	
Schmidt, William Francis	N.Y.	Wolff, Gerald Spalding	D.C.
Schreiner, Stanley Warner	Va.	Wolfson, Eileen Bishias	Md.
Segin, Dorothy Pittenger	Minn.	Womack, Herman Lynn	Miss.
Shampain, Leon	N.Y.	Wood, Lucy Alice	Wis.
Shanks, Jane Elizabeth	Md.	Yamamoto, Kenneth K.	Md.
Sheridan, Philip Regis	Pa.	Zeydel, Jeanne Randolph	D.C.
Sherwood, Virginia	Va.	Zoll, Nathan Hyman	Mass.

BACHELOR OF SCIENCE

NOVEMBER 11, 1948

Baroff, George Stanley	N.Y.	Rosenblatt, Harry Myer	N.Y.
DeKornfeld, Thomas	Md.	Ruffing, Lynus Frederick	D.C.
Haswell, Judith Ruth	Va.	Silverberg, Stanley Melvin	D.C.
Horwitz, Harvey	D.C.	Smith, Jack Wyzan	Tex.
Levy, Charles Kingsley	D.C.	Stringham, Jean Maxwell	Md.
Martens, Seymour	N.Y.	Thomas, Richard Ogden	D.C.
McCreight, Charles Edward	D.C.	Walsh, Jane Angela	D.C.
Modlin, Albert Jay	D.C.	Willson, John Tucker	Colo.
O'Dea, Patrick Lawrence	D.C.		

FEBRUARY 22, 1949

Cobb, Thomas Lambert	Moit	Shapiro, John Joseph	Md.
Ernst, Edward Cranch	Calif.	Takemoto, Kaname	Hawaii
LaRocca, Marie Barbara	N.Y.	Tucker, Nancy Jane	D.C.
Seal, Morgan Swaim	D.C.		

JUNE 1, 1949

Allison, LeRoy Montgomery, Jr.	Md.	Brandenburger, Elise Ann	Va.
Berkowitz, Leonard L.	N.Y.	Bruin, Edith Helen	Va.
Biasini, Adolph Paul	Pa.	Cahan, Jules Isaac	D.C.
Bouquet-Chautemps, Jean Pierre Edouard	Md.	Carlton, Harry Nelson	D.C.

Chirelstein, Marvin	N.J.	Martin, William Francis	D.C.
Clark, George Henry, Jr.	D.C.	Maupin, Dorothy Ray	D.C.
Cohen, Melvin S.	N.Y.	McKinley, Thomas William, Jr.	D.C.
(With distinction)		Miller, Laverne Sayre	Fla.
Conti, Carl Conrad	N.J.	Memahan, Stephen Thomas	N.Y.
Cooper, Cecil	Pa.	Oishi, Masaichi	Hawaii
(With distinction)		Olshin, Seymour Samuel	N.Y.
Davidson, Herbert Donald	D.C.	Olsen, Richard Roberts	Ind.
Fioramonti, Mary Clair	D.C.	Owen, Stanley Fletcher, Jr.	D.C.
Gervasio, James Robert	N.J.	Patten, Stanley Fletcher, Jr.	Puerto Rico
Glover, Donald Jackson	D.C.	Perez, Jorge Ramon	D.C.
Goldberg, David	D.C.	Pitzer, Charles Jay	D.C.
Goldband, Victor	N.Y.	Roberson, Elbert Belmont, Jr.	D.C.
Goldstein, Walter Carl	D.C.	Rock, Doris Lorraine	D.C.
Haggart, Jane	D.C.	Segal, Bernard Rubin	D.C.
Harris, Forest Klaire II	Mass.	Shore, Parkhurst Alan	D.C.
Harrison, Louis Pincus	Va.	Silbert, Leo	N.Y.
Henry, James Junior	D.C.	Smagman, David	Md.
James, Edith Lee	D.C.	Solmetsky, Dorothy Louise	D.C.
Kohl, Francis Victor	D.C.	Spitzbergen, James Clifford	Mass.
Lambert, Francis Lincoln	D.C.	Surgen, Henry Ronald	Puerto Rico
(With distinction)—Special honors		Toro-Nazario, Rafael Andrés	Utah
in Zoology)		Van Urt, LeGrand Gerard	Md.
Longley, Mary Olga	Calif.	Wales, Charles Porter	Okla.
Mallou, Samuel	D.C.	Winter, Lewis Jasper	Va.
Marlowe, George Albert, Jr.	D.C.	Yowell, Earl Reddish	

MASTER OF ARTS

NOVEMBER 11, 1948

Enikeieff, Una Owen	D.C.	Newkirk, George Francis	Ill.
B.S. 1945, A.B. 1946, The George Washington University		A.B. 1946, The George Washington University	
Epstein, Jerome Harold	N.J.	Newton, Walter Lloyd	Md.
A.B. 1947, New York University		B.S. 1942, The George Washington University	
Evans, Philip Gordon	Pa.	Norton, Hugh Stanton	Nev.
A.B. 1936, Pennsylvania State College		A.B. 1947, The George Washington University	
Frost, John Dean	Iowa	Pasternak, Walter Paul	W.Va.
A.B. 1948, The George Washington University		A.B. 1942, Salem College	
Greene, Katherine Virginia	Va.	Rebert, Richard Ross	Pa.
A.B. 1947, Eastern Nazarene College		A.B. 1941, The George Washington University	
Guth, Herbert Julius	N.Y.	Schneider, Herbert Henry	N.Y.
A.B. 1937, University of Wisconsin		A.B. 1947, New York University	
Hogue, William Marston	D.C.	Spitznagel, Anne Such	Md.
A.B. 1948, The George Washington University		A.B. 1944, Barnard College	
Hoopes, Roy Harry, Jr.	D.C.	B.S. 1947, Columbia University	
A.B. 1941, The George Washington University		Stewart, Charles Todd, Jr.	Md.
Johnson, Augustus Clark	D.C.	A.B. 1946, The George Washington University	
A.B. 1946, The George Washington University		Tanck, Roland Henry	Wis.
Lancaster, Georgina	D.C.	A.B. 1939, University of Wisconsin	
A.B. 1947, The George Washington University		Wallace, Dorothy June	Minn.
Lefevre, Jean Elting	D.C.	A.B. 1947, The George Washington University	
A.B. 1947, The George Washington University			

FEBRUARY 23, 1949

Boehler, Robert E.	Ohio	Hochbaum, Godfrey Martin	Iowa
A.B. 1945, University of Toledo		A.B. 1947, American University	
Child, Ralph Grassing	N.Y.	Holt, David	Tenn.
A.B. 1941, Hofstra College		A.B. 1940, University of New Hampshire	
Dias Carneiro, Octavio Augusto	Brazil	Kantor, Sidney	N.Y.
B.S. 1931, Brazilian Naval Academy		A.B. 1947, The George Washington University	
Doran, Leonard Granville	Va.		
A.B. 1942, Harvard University			

Marsh, Richard Wade	D.C.	Villarejo, Oscar Milton	D.C.
A.B. 1941, American University		A.B. 1947, The George Washington University	
Marshburn, Bryan Dow	N.C.	Woodward, Lawrence Godfrey	D.C.
B.S. 1945, Wake Forest College		A.B. 1948, The George Washington University	
Mintz, Sidney	Mich.	Yamamoto, Richard Susumu	Hawaii
A.B. 1938, Ohio University		A.B. 1946, University of Hawaii	
Peterson, David Allen	Mass.	Zachary, Robert Yancey	D.C.
B.S. 1937, Massachusetts State College		A.B. 1943, Georgetown University	
Stone, Helen Seegar	Ind.		
A.B. 1916, Northwestern University			

JUNE 1, 1949

Allen, Eileen Denney	Va.	Hazán, Solomon Jay	N.Y.
A.B. 1938, University of Maryland		A.B. 1947, Brooklyn College	
Belden, Thomas Graham	Mich.	Holst, Arthur William	Md.
B.S. in Eng. 1948, The George Washington University		A.B. 1947, University of Chattanooga	N.Y.
Chassan, Jacob B.	N.Y.	Levander, Rena	
B.S. 1939, College of the City of New York		A.B. 1943, Swarthmore College	R.I.
Chatham, Marie	Va.	Lopes, Frances Mary	
A.B. 1948, The George Washington University		A.B. 1944, The George Washington University	
Coplan, Robert Stanley	Md.	McClurg, Laura Sherren	D.C.
A.B. 1948, Johns Hopkins University		A.B. 1926, University of Washington	
Davis, Cathryn Riggelman	Fla.	Millner, Elliott	D.C.
A.B. 1944, The George Washington University		A.B. 1948, The George Washington University	
Davy, Earl Philip	Conn.	Putman, Margaret Ada	Kans.
A.B. 1948, Yale University		A.B. 1933, Friends University	
Fastrès, Simone Hélène	Belgium	Rubin, Joel	D.C.
A.B. 1948, The George Washington University		B.S.S. 1943, College of the City of New York	
Goheen, Howard Warren	Va.	Schmid, Erwin	D.C.
A.B. 1947, Muhlenberg College		B.S. 1934, Haverford College	N.Y.
Gregory, Estella Hazel	Ohio	Sollins, Alfred D.	
A.B. 1929, College of Wooster		A.B. 1945, The George Washington University	
		Williams, George Woods	Md.
		A.B. 1941, Kalamazoo College	

MASTER OF SCIENCE

NOVEMBER 11, 1948

Bacchus, Habeeb	British Guiana	Henry, Katherine Elizabeth	Pa.
B.S. 1947, Howard University		A.B. 1947, University of Pennsylvania	
Clinkston, Philip	Mich.	Long, Margaret Freas	D.C.
B.S. 1942, University of Michigan		B.S. 1946, American University	

FEBRUARY 22, 1949

Birnbaum, George	N.Y.	Michini, Louis Joseph	Del.
A.B. 1941, Brooklyn College		A.B. 1941, University of Delaware	
Fockson, Abraham	N.Y.	Milliken, Lewis Thurston	N.H.
B.S. 1937, College of the City of New York		A.B. 1944, Bowdoin College	
Gabriel, Henry	Md.	Otting, William Joseph, Jr.	Md.
B.S. 1934, Long Island University		B.S. 1946, The George Washington University	
Johnson, Albert Sidney	Md.	Rivera, Carmen Dolores	Puerto Rico
B.S. 1936, University of South Carolina		B.S. 1947, University of Puerto Rico	

JUNE 1, 1949

Braun, Dean F.	Ill.	Davison, Clarke	D.C.
B.S. 1941, Bradley University		B.S. 1948, The George Washington University	
Duiley, Robert Eagle	W.Va.	Freeman, Marian Virginia	Del.
B.S. 1948, The George Washington University		B.S. 1948, The George Washington University	

Degrees Conferred

351

Goldsmith, Herbert B.Ch.E. 1940, College of the City of New York	N.Y.	Perros, Theodore Peter B.S. 1946, The George Washington University	D.C.
Gotthieb, Marvin Irving A.B. 1947, New York University	N.Y.	Posner, Irene B.S. 1945, The George Washington University	D.C.
May, Garnett Hinshaw B.S. 1944, High Point College	N.C.	Schoeneman, Robert Lee B.S. 1947, The George Washington University	Ind.
McLoughlin, Donald Keith B.S. 1948, The George Washington University	Mo.	Seidman, Milton B.S. 1938, Johns Hopkins University	Va.
Morgan, Walter Clifford, Jr. B.S. 1946, University of Connecticut	Conn.	Sung, Chen-Yii B.S. 1941, Yenching University, Peiping, China	China
Mushabac, Robert A.B. 1942, Brooklyn College	N.Y.	Swell, Leon B.S. 1948, College of the City of New York	N.Y.
Park, Helen Dorothy B.S. 1946, The George Washington University	Va.	Uretsky, Martin Davis A.B. 1948, New York University	N.Y.

DIVISION OF UNIVERSITY STUDENTS

BACHELOR OF SCIENCE IN SECRETARIAL ADMINISTRATION

NOVEMBER 11, 1948

Hoover, Elizabeth Jane

Pa. Kamp, Betty June

Va.

FEBRUARY 22, 1949

Downs, Rhoda Thompson

Va.

JUNE 1, 1949

Geisel, Magdalen Ruth

Wis.

THE SCHOOL OF MEDICINE

DOCTOR OF MEDICINE

JUNE 1, 1949

Atchison, Joseph Lave B.S. 1944, University of Oregon	Va.	Cooper, William Hurlbert A.B. 1946, Western Reserve University	Ohio
Baird, Glenn Dean A.B. 1945, The George Washington University	D.C.	Cooperman, Bernard Robert A.B. 1946, The George Washington University	D.C.
Band, Philip Theodore B.S. 1946, Franklin and Marshall College	D.C.	Crisp, William Earl, Jr. Curtis, James Leroy	Ohio Wis.
Berkow, Morton Donald B.S. 1946, Franklin and Marshall College	D.C.	De Lashmunt, Robert Eugene Ditzler, Marshall Ernest	Ohio Pa.
Bessman, Alice Neuman (With distinction) A.B. 1943, Smith College	N.J.	B.S. 1946, Lebanon Valley College	Ind.
Binder, Samuel Sholem A.B. 1945, Marietta College	Pa.	Dixon, William Martin Droulard, Kenneth Earl	Mich. Conn.
Bortler, Marcia A.B. 1945, The George Washington University	D.C.	Dunbar, Anne Cameron A.B. 1942, The George Washington University	
Boyd, Thompson Harnes B.S. 1946, University of Oklahoma	Ill.	A.M. 1944, Colorado College English, Harold Medwin	Md.
Burns, James Patrick, Jr. Chapman, James Eliot	D.C.	B.S. 1946, Washington College	N.Y.
Cliff, Leighton Eggertsen (With distinction)	D.C.	Essman, Leonard Joseph Foster, Robert Russell	Ohio Ind.
Cohen, June Rae (With distinction) B.S. 1945, The George Washington University	D.C.	Gouldard, James Lee Greenlee, Robert Leonard	Wash.
		Hardy, William McClure B.S. 1945, University of Oregon	Mass.
		Hashin, John Sarkiss B.S. 1942, University of New Hampshire	

Haynes, Aubrey Franklin Hines, Robert Haynam B.S. 1949, Mount Union College	Tenn. Ohio	Pollack, Jerome Lee B.S. 1945, Franklin and Marshall College	D.C.
Howie, Donald Lynk Jenkins, Robert Lawrence, Jr. Kelsier, George Archibald, Jr. B.S. 1946, Harvard University	Mass. Pa. Md.	Porter, Melvin A. Presto, Ernest Carl (With distinction)	Kana. N.Y.
Kilpatrick, John Taylor B.S. 1945, University of Oklahoma	Okla.	Robertson, John A. Shaheen, Michael Edmund B.S. 1938, Boston University	Calif. Miss.
Kiracole, Arthur Hiram, Jr. A.B. 1943, Franklin and Marshall College	Md.	Siggers, Richard Lawrence A.B. 1945, Columbia University	D.C.
A.M. 1945, Columbia University		Smith, James Anthony Solomon, Robert Joseph	N.Y.
Labti, Carl Robert Lane, John Goethe, Jr.	Mich. Fla.	Stout, Henry Wallace Tidler, Harold Stanley	Mich. D.C.
Lash, Robert Frederick Law, Arthur Gregory	Ill. Va.	Tomlinson, William Barrington (With distinction)	Md. N.J.
Lee, Gilbert Stanley A.B. 1941, Stanford University	Oreg.	Tway, Lawrence Edward Van Atta, Glen Benjamin, Sr.	Calif. Ohio
Madegan, Marion Elizabeth B.S. 1944, The George Washington University	D.C.	Van Gelderen, Bertha Elizabeth A.B. 1947, The George Washington University	D.C.
Mahaney, Thomas Preston Michael, Arnold Hugh (With distinction)	Mich. D.C.	Wensel, Louise Oftedal A.B. 1939, Wellesley College	Md.
Michols, Raymond Martin B.S. 1945, University of Notre Dame	Wis.	Whitnack, John Doyle Whyte, Ann	Minn. D.C.
Miller, Ray Lambert B.S. 1936, Northwest Missouri State Teachers College	Va.	A.B. 1946, The George Washington University	Iowa
Mossman, Paul Burrell A.B. 1945, University of California	Calif.	Williams, Gerald Albert (With distinction)	
O'Leary-Matthews, Mary Jean (With distinction)	Md.	B.S. 1945, South Dakota State College	Ala.
A.B. 1946, The George Washington University		Wimberley, Mary Claire Baker A.B. 1944, University of Alabama	R.I.
Pitner, Robert James B.S. 1949, Mississippi State College	Miss.	Yetman, Thomas William Zitani, Alfred Marius, Jr.	N.J.

THE LAW SCHOOL

BACHELOR OF LAWS

NOVEMBER 11, 1948

Allen, Jonathan Harvey Altmann, Andrew Taylor B.S. 1941, University of Maryland	Tex. D.C.	Couser, Christian Rewoldt Cox, Lewis Calvin, Jr. Craig, Alan Ward	Conn. N.M. N.Y. D.C.
Bailey, William Alfred Barber, John Raymond, Jr. A.B. 1941, Whitman College	Tex. Calif.	Cross, Margaret Johns A.B. 1938, University of Illinois	Ga.
Bedke, Herman Earl B.S. 1941, University of Utah	Idaho	Davis, Edwin Lanier A.B. 1947, The George Washington University	Calif.
Bennett, William Tapley, Jr. A.B. 1937, University of Georgia	Ga.	Denneweyer, John James Abitur, 1940, College of Luxembourg	Ill.
Berger, Martin Bernat, Louis Conrad	Pa. N.Y.	Derr, Charles Ivan A.B. 1939, Illinois Wesleyan University	D.C.
Best, Crockett Mitchell B.S. 1937, University of Alabama	Ark.	Dillon, Edward Scott B.S. 1932, University of Illinois	Calif.
Bolhagen, Clifford Fred Brain, William Herbert B.S. 1944, University of Illinois	Md. Ill.	Doty, Dale Edward A.B. 1936, Pomona College	
Carrier, Guy Homer B.S. 1943, North Texas State Teachers College	Tex.	A.M. 1938, University of Cincinnati Drees, George Calvin B.S. in Chem. Eng. 1945, University of Alabama	D.C.
Christenson, Cullen Yates Cohen, Ernest Samuel B.C.E. 1937, College of the City of New York	Utah N.Y.	Engelhardt, Charles William, Jr. Finder, Lee McLeish A.B. 1943, State University of Iowa	D.C. Iowa
Cortez, Ezekiel Casimiro, Jr. A.B. 1943, New Mexico College of Agriculture and Mechanic Arts	N.M.	Gardner, Edith Rose A.B. 1943, University of California at Los Angeles	Va.

Gibbs, Richard DeArmond A.B. 1947, The George Washington University	D.C.	Nichols, Frank Dean A.B. 1946, The George Washington University	W.Va.
Gottlieb, Alvin Lawrence A.B. 1946, The George Washington University	N.Y.	Niehuss, Jacob Clark A.B. 1940, University of Alabama	Ala.
Hagan, William Joseph Ph.B. 1942, University of Detroit	Mich.	Ostermann, Herbert William B.S. 1944, University of Michigan	Mich.
Hantman, Alfred A.B. 1939, Brooklyn College	N.Y.	Pennefeather, Joseph Edmond Raffel, Everett Morton	N.Y.
Heinisch, Ned O. A.B. 1942, Marshall College	W.Va.	A.B. 1943, Brooklyn College	N.Y.
Helstrom, Warren Richard A.B. 1943, DePauw University	Ill.	Robinson, Thomas Benton Rodgers, Philip Ray	Mont. Utah
Holyfield, Thomas Kenney A.B. 1941, Millsaps College	Miss.	B.S. 1939, M.S. 1940, University of Utah	Utah
Horkan, George Anthony, Jr. A.B. 1941, University of Pennsylvania	D.C.	Ph.D. 1947, American University	D.C.
Imley, Carl Hudson A.B. 1946, Harvard University	D.C.	Rosinski, Donald Carl Shadowen, Cyril Eugene	Ohio
Kruehl, Frederick John B.S. in M.E. 1943, University of Illinois	Ill.	Shearin, Plummer Mustian B.S. 1936, Wake Forest College	Md.
Leza, Frank Joseph, Jr. A.B. 1943, University of Minnesota	Minn.	Shure, Gilbert Bernard B.S. 1934, Virginia Polytechnic Institute	Va.
Lingreen, Edna Marion A.B. 1934, A.M. 1935, State University of Iowa	Iowa	Smith, Leon Kushner A.B. 1947, The George Washington University	D.C.
Lockwood, Robert Kenneth A.B. 1942, Maryville College	D.C.	Smith, Richard Robert Southmayd, LeRoy, Jr.	Va.
Luber, Shirley Natalie Martin, James Alfred	D.C.	Spivat, Richard Walter B.S. 1942, University of Pennsylvania	Mont. Pa.
B.S. 1940, United States Coast Guard Academy	D.C.	Sterman, Milton B.S. in Eng. 1935, Ch.E. 1936, College of the City of New York	N.Y.
Mayoral, José Angel B.B.A. 1939, University of Puerto Rico	Puerto Rico	Sudnik, Louis Frederick B.S. 1941, United States Coast Guard Academy	Mass.
McTiernan, Charles Edward B.S. in E.E. 1941, University of Alabama	N.Y.	Thomas, William Henry Baldwin Walkinshaw, Walter	D.C.
Merwin, John David B.S. 1943, Yale University	Conn.	A.B. 1939, University of Washington	Wash.
Miller, Joseph Sheldon Moon, Joan Marie	N.Y.	Weston, Glen Earl (With distinction)	Md.
A.B. 1942, University of Maryland	Md.	B.S. 1941, University of Maryland	Va.
Neveleff, Jerome Cooper A.B. 1941, Yale University	Conn.	Wild, Paul Joseph A.B. 1938, Drake University	Md.
Newsome, George Marvin	Ga.	Willenbacher, Dorothy Elizabeth A.B. 1946, Swarthmore College	D.C.
		Wilson, Vernon Claude Wofford, William Tatum	Va.
		B.S. 1942, Texas Agricultural and Mechanical College	

FEBRUARY 22, 1949

Abendschein, Mary-Jane Ailes, Curtis, Jr. B.E.E. 1941, Ohio State University	Va.	Daver, Maxwell A.B. 1935, M.S. 1937, New York University	D.C.
Alpar, Jacob A.B. 1947, The George Washington University	D.C.	Davey, William Francis Dawson, Howard Athalone, Jr.	N.Y.
Appleby, James Scott A.B. 1944, University of Arizona	D.C.	B.S. 1946, University of North Carolina	Va.
Bamford, David Ellery Baker, Harold Fred	Pa.	Dock, William Horace B.S. in B.A. 1942, University of Tennessee	Md.
Barnes, Frank Oakes Buchanan, James Allison, Jr.	N.Y.	Embrey, Lemuel Jackson A.B. 1937, The George Washington University	Va.
B.S. in M.E. 1944, Northwestern University	Va.	English, Thomas Young A.B. 1941, The George Washington University	Tenn.
Bush, Donald Cochran Caldwell, Callis A.	Pa.	Fenderson, Ralph Leon, Jr. A.B. 1941, University of California at Los Angeles	Ariz.
Campbell, William Robert B.S. in C.E. 1947, University of Maryland	Utah Md.		
Cotter, Francis Aloysius	Md.		

Ferry, John Paul	Va.	McLendon, Sally Birdsall	Miss.
A.B. 1937, B.S. 1938, St. Joseph's College		A.B. 1946, University of Iowa	Ohio
Fields, Ogden Wilson	Calif.	McPherson, James Willis, Jr.	Md.
A.B. 1933, University of California		Mitchell, George Day	
Fittsimmons, James William	N.Y.	B.S. 1934, Johns Hopkins University	D.C.
B.M.E. 1943, Polytechnic Institute of Brooklyn		Murchison, David Claudius	Md.
Fortney, Gordon	Va.	Nicolaides, Manuel Mike	
A.B. 1932, University of Wisconsin		B.S. in B.A. 1943, University of Maryland	Va.
Gardner, Spencer Delos	Mich.	Payne, Ralph Lucian	N.Y.
Gaughan, John Vincent	Va.	Pucci, Gerard Richard	
A.B. 1932, Villanova College		B.S. in M.E. 1944, Virginia Polytechnic Institute	Pa.
Gilfix, Roy Hart	D.C.	Richwine, Francis Kost	
B.S. 1944, University of Maryland		B.S. 1941, Pennsylvania State College	W.Va.
Glasgow, Norman Milton	Md.	Rose, Charles Jules	
B.S. 1943, University of Maryland		A.B. 1942, The George Washington University	N.Y.
Good, Charles Lloyd	Md.	Rowan, Eugene Francis	
B.S. in Ch.E. 1943, Purdue University		B.S. 1945, University of Virginia	Md.
Guerra, Alphonso Angel	Tex.	Ryan, Mary Deloris	
Hancock, John Cochran	Md.	A.B. 1947, The George Washington University	N.J.
A.B. 1943, Western Maryland College		Scott, David Alan	
Harris, John Alfred	D.C.	A.B. 1938, Princeton University	
B.S. 1946, University of Illinois		A.M. 1946, Columbia University	D.C.
Harrison, Haldon Roberts	Va.	Semmes, John Gibson	Maine
A.B. 1947, The George Washington University		Smith, Dorr Newell	
Hart, Wilson Ritter	N.M.	A.B. 1947, The George Washington University	Fla.
A.B. 1942, University of New Mexico		Smith, Lawrence Sinclair	
Heckman, Phyllis Lou	D.C.	A.B. 1939, University of Florida	Ohio
Herring, Paul Littleton	Md.	Stanley, Earl R.	
B.S. 1946, University of Maryland		B.S. in Ed. 1943, Kent State University	Va.
Hill, George Richards	Pa.	Stein, Murray	
Huddins, John Jefferson	Va.	A.B. 1947, The George Washington University	D.C.
Hudson, Dugald Walker	S.C.	Tarrant, William Theodore, Jr.	
A.B. 1940, Presbyterian College		A.B. 1938, Stanford University	
Kahn, Evans	N.Y.	A.M. 1939, Tufts College	Va.
A.B. 1933, Yale University		Tillson, Paul Lambert	
Kardy, Leonard Thomas	Md.	B.S. 1938, M.S. 1939, Massachusetts Institute of Technology	Mass.
Keller, Phillips Brooks, Jr.	Tex.	Timbie, Donald Mute	
A.B. 1947, University of Texas		B.S. in E.E. 1939, Massachusetts Institute of Technology	N.Y.
Knight, Robert Whitney	Md.	Trabb, Ralph	
Lasco, John, Jr.	Pa.	A.B. 1947, The George Washington University	Ala.
Lay, Kenneth Swift	Mo.	Vance, William Frank	
Levin, Joseph	D.C.	(With distinction)	
Litteral, Kelley	Md.	A.B. 1941, Birmingham-Southern College	Va.
A.B. 1946, Washington and Lee University		VanMeter, William Garrett	Tenn.
Long, George Edward	Md.	Vorder Bruegge, Howard Joseph	N.J.
Loos, Dickson Randall	Md.	Washington, James William	
A.B. 1945, Dartmouth College		A.B. 1946, Lafayette College	Conn.
B.S. 1945, Yale University		Wheeler, Mary Starr	N.H.
Luckett, Richard Samuel, Jr.	Va.	A.B. 1916, Wellesley College	
A.B. 1943, Randolph-Macon College		Wong, Wing	
Magurn, Joseph John	D.C.		
A.B. 1938, Harvard University			
Mason, William Ernest	Ill.		
McCormick, William Carlyle	W.Va.		
A.B. 1938, West Virginia University			
McElroy, John Dale	Md.		

JUNE 1, 1949

Abel, Leonard Leon	D.C.	Barackman, Bruce MacDonald	Pa.
Abramowitz, Charles	N.Y.	A.B. 1930, Allegheny College	Va.
A.B. 1948, The George Washington University		Baynard, Ernest Cornish, Jr.	N.D.
Albright, Penrose Lucas	Kans.	Benson, Paul	
Alvey, Ernest Brandon	Va.	B.S. 1943, University of North Dakota	Calif.
Bakke, Norris Conroy, Jr.	Colo.	Berndtson, Arthur Henry	
A.B. 1946, Colorado College		B.S. 1940, United States Naval Academy	

Biesenmeier, Harold Woodall B.S. 1940, United States Naval Academy	D.C.	Gearheart, Ernest Theodore, Jr. A.B. 1936, University of Richmond	Va.
Black, Hiram Day A.B. 1944, Yale University	D.C.	Gilmore, Frank Peter B.S. 1927, M.D. 1929, Loyola University	Ill.
Block, William Edward, Jr. Ph.B. 1947, University of North Dakota	N.D.	Goodpasture, Maurice Carroll A.B. 1941, Texas Technological College	Tex.
Bollard, Isabelle Mary B.S. 1936, University of Tennessee	Ill.	Graham, Robert Albary Hapeman, Lucy Ann	Tex. Nebr.
Borchelt, Benjamin August B.S. 1941, The George Washington University	Md.	A.B. 1946, University of Nebraska	
Brittin, Burdick Heinkel A.B. 1940, Union College	N.J.	Harris, Shirley A.B. 1944, Wellesley College	Va.
Brown, Joseph Sessford A.B. 1947, University of Kansas	Kans.	Hirshberg, Robert Lowe A.B. 1940, Oberlin College	Ohio
Browning, John Barnett B.S. 1943, University of Alabama	N.J.	Hodges, Raymond Lewis B.S. 1941, University of Maryland	D.C.
Campbell, Donald Alfred Campbell, Strouse, Jr. A.B. 1943, Duke University	Md. D.C.	Hoffman, Rubin B.Ch.E. 1937, College of the City of New York	Md.
Chaplinsky, Leo Eugene Ph.B. 1942, Dickinson College	Pa.	Howes, Edward Eugene Ph.B. 1931, M.D. 1936, Yale University	N.Y.
Choulas, James George Clark, William III	N.Y. N.C.	Howes, Charles Edward Huffman, William Ewart	Ohio Md.
Close, Marion Campbell Collins, Percy Henry, Jr. B.S. 1941, University of Kansas	N.Y. Kans.	Hyer, William Fred (With distinction) B.S. 1942, Oklahoma Agricultural and Mechanical College	Tex.
Dasteel, Robert Herbert B.S. 1939, United States Naval Academy	Calif.	Jacobs, Arthur Alfred B.S. 1939, New York University	Md.
Davis, Donnell Preston A.B. 1945, University of South Carolina	S.C.	Johnson, Charlotte Albertina B.B.A. 1932, University of Minnesota	Minn.
Davis, John Mason B.S. 1940, University of Illinois	Ill.	Keating, William Joseph B.S. 1940, United States Naval Academy	Ill.
Dentz, Edwin James Diston, Frank Earl	D.C. Wyo.	Keith, Deane Ellington B.S. 1943, University of Maryland	Va.
Dixon, Thomas Wilson Dodge, Austin Phelps B.S. 1944, Massachusetts Institute of Technology	Mo. Md.	Kennedy, Joseph Bernard, Jr. A.B. 1947, The George Washington University	Va.
Dubiel, Joseph Michael B.S. 1938, University of New Hampshire	Va.	Kerr, David Jay A.B. 1947, The George Washington University	Okla.
Duff, Alfred James A.B. 1947, Pennsylvania State College	Pa.	Kilbey, Katherine A.B. 1927, Trinity College	Va.
Earnest, John Allen B.S. 1943, Alabama Polytechnic Institute	Ala.	King, Donald Kyle A.B. 1948, The George Washington University	D.C.
Ehrlich, Bernard Herbert A.B. 1946, The George Washington University	D.C.	Kuchler, Ralph Rudolph A.B. 1948, The George Washington University	Utah
Elias, Jack Isidor B.B.A. 1941, College of the City of New York	N.Y.	LaHatte, James Albert, Jr. B.S. in E.E. 1943, Georgia Institute of Technology	Md.
Elliot, Ralph Earle, Jr. Each, Arthur Gerald B.S. 1940, United States Naval Academy	Ill. Ill.	Lamberton, Alfred James A.B. 1931, University of New Hampshire	N.H.
Fahrney, John William A.B. 1948, The George Washington University	Va.	Langholz, Ernest Frederick A.B. 1948, The George Washington University	Tex.
Field, Lawrence Irving B.S. in Eng. 1935, Ch.E. 1936, College of the City of New York	Pa.	Leighton, Donald McCulloch A.B. 1938, University of Nevada	Nev.
Firsht, Peter Hergesheimer B.S. 1931, Drexel Institute of Technology	Va.	Levin, Jacob Solomon Levine, Irving Abraham	D.C. D.C.
Galysh, Theodore Richard B.S. 1946, Villanova College	Conn.	Lukens, John Fritchle A.B. 1936, University of Idaho	Idaho
		Maltby, Wilson Ray A.B. 1930, Milton College	Va.
		Martin, Richard Alfred A.M. 1931, University of Wisconsin	Maine

McAnear, Frank Ed A.B. 1945, The George Washington University	Ark.	Seed, Richard Warren B.S. 1944, California Institute of Technology	Wash.
Miller, Homer Ralph, Jr.	Md.	Sheeskin, Jacob	D.C.
Miller, James Robert	Md.	Smith, Jesse Bond, Jr.	Md.
Mirandon, Joseph Wilmer A.B. 1947, The George Washington University	N.J.	A.B. 1943, University of Virginia	N.Y.
Montgomery, John William Myers B.S. 1940, United States Naval Academy	D.C.	Smolen, Joseph Sidney A.B. 1946, University of California at Los Angeles	Pa.
Moore, George Carlton, Jr. A.B. 1941, University of Maryland	Md.	Streinz, Clare Julia	D.C.
Moran, Leon James	Conn.	Sures, Charles Stanley A.B. 1947, The George Washington University	R.I.
Nielson, Donald Clarence A.B. 1947, University of Kansas	Mo.	Taussig, Joseph Kneffer, Jr. B.S. 1941, United States Naval Academy	Ohio
Nolte, Albert Charles, Jr. B.S. in Eng. 1943, Princeton University	Md.	Taylor, Thomas Hart B.S. 1940, United States Naval Academy	Md.
Pelleri, Leo Maurice Francis Pfund, Charles Edward B.S. in E.E. 1943, Iowa State College	Md.	Tenny, Morgan Ledyard A.B. 1947, University of Maryland	Ga.
Purdy, William Frederick, Jr. (With distinction) M.E. 1937, Stevens Institute of Technology	N.Y.	Thompson, Lucius Fred	N.M.
Quesenberry, William Otis B.S. in C.E. 1945, Virginia Polytechnic Institute	Va.	Trivix, Edward Ernest A.B. 1943, New Mexico College of Agriculture and Mechanic Arts	Va.
Racoon, Stanley Arnold	D.C.	Washington, Fielding Lewis	N.C.
Ralston, Lawrence Parker A.B. 1939, Princeton University	Conn.	Webb, Henry Gorham B.S. 1938, University of North Carolina	Conn.
Rambo, Reginald Rodney B.S. 1933, M.S. 1934, University of Arizona	Pa.	Webb, Richard William A.B. 1947, The George Washington University	Tex.
M.D. 1938, Harvard University		Westfall, Ted B. B.S. 1940, University of Oklahoma	Va.
Randolph, Edgar Reed A.B. 1946, Yale University	Mass.	Wetmore, William Furches, Jr.	Nebr.
Reynolds, Chester Forest	D.C.	White, Irvin Albert	Nebr.
Robbins, Charles Earl	La.	White, Ruth Baskin A.B. 1943, University of Pennsylvania	D.C.
Ross, Harry, Jr. B.N.S. 1946, University of Notre Dame	Miss.	Wilkins, Elizabeth Ann	Pa.
Rousar, Edward Everett	Va.	Wood, Charles William	Va.
Ryan, John Wynne A.B. 1942, Dartmouth College	N.Y.	Wymbs, Roy Paul B.S. 1943, University of Richmond	N.Y.
Schultz, John Hooker	Md.	Young, Olive Emily A.B. 1920, A.M. 1930, University of Rochester	Pa.
		Zaid, Charles A.B. 1933, Temple University	

JURIS DOCTOR

FEBRUARY 22, 1949

Bronaugh, Alfred Taylor B.S. in E.E. 1939, The George Washington University	D.C.	Kempton, Lawrence R. B.F.E. 1940, Ohio State University	D.C.
Browning, Paulus Powell, Jr. B.S. 1941, University of Pennsylvania	D.C.	Schneider, Homer James B.S. 1943, University of Wisconsin	Va.

JUNE 1, 1949

Bergren, Orville Vernon B.S.C. 1940, University of North Dakota	Mich.	Cutler, Charles Russell B.S. 1945, California Institute of Technology	Ill.
Brodahl, Raymond Gilbert B.S. in E.E. 1945, Iowa State College	D.C.	Dent, Richard Judson	Va.
Collet, William Anderson (With distinction) A.B. 1947, Westminster College	Mo.	Even, Francis Alphonse B.S. in M.E. 1942, University of Illinois	Ill.

Degrees Conferred

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Friedman, Martin Leonard (With distinction) A.B. 1939, Rutgers University	N.J.	Macaluso, Vincent Grondin A.B. 1947, Yale University	N.Y.
Gray, Louis Patrick III B.S. 1940, United States Naval Academy	Tex.	Oliver, William Palmer, Jr. (With distinction) A.B. 1941, University of Missouri	Mo.
Johnson, Olin Beeler A.B. 1944, Western Michigan College	Mo.	Savage, William Alvin A.B. 1939, Stanford University	Calif.
Kramer, Jerome Frank B.E.E. 1941, Ohio State University	Ohio	Stevens, Wynne Allan, Jr. A.B. 1939, College of William and Mary	Md.
LeClaire, Charles Homer A.B. 1940, Alma College	Mich.	Weiss, Sidney B.B.A. 1942, College of the City of New York	N.Y.
M.B.A. 1942, University of Michigan			
Lhamon, George Marion B.S. 1939, United States Naval Academy	Calif.		

MASTER OF LAWS

NOVEMBER 11, 1948

Boyko, Edgar Paul I.L.B. 1945, University of Maryland	Md.	Hordes, Sanford I.L.B. 1940, University of Maryland	N.J.
Daleida, Joseph B.S. 1934, Massachusetts Institute of Technology	D.C.	Jones, Tilford A. I.L.B. 1948, The George Washington University	D.C.
I.L.B. 1942, The George Washington University		Loveless, Ernest Alvin, Jr. A.B. 1943, University of Maryland	Md.
Dann, Francis Gill LL.B. 1937, University of South Dakota	S.D.	LL.B. 1947, The George Washington University	
Ely, Robert Burroughs A.B. 1920, Emory and Henry College	Va.		
LL.B. 1926, The George Washington University			

FEBRUARY 22, 1949

Bellis, Tom A.B. 1929, Southeast Missouri State Teachers College	Mo.	Lenex, Herber Carlton B.S. 1928, Oklahoma Agricultural and Mechanical College	Tex.
A.M. 1931, University of Cincinnati		I.L.B. 1934, University of Oklahoma	
J.D. 1948, The George Washington University		McElroy, Virg. Maurice A.B. 1936, I.L.B. 1938, University of Kansas	Kans.
Braddon, Kerlin Joseph LL.B. 1934, University of Oklahoma	Tex.	Moreland, Allen Barwick B.S. in B.A. 1938, University of Florida	Fla.
Craig, Paul Max Dr. juris utr. 1911, University Erlangen, Bavaria	D.C.	A.M. 1942, Harvard University	
Cert. de la Science Pénale 1913, Sorbonne, Ecole de Droit, Paris		LL.B. 1947, Georgetown University	D.C.
Finch, Walter Gilchrist Goss B.E. 1940, Johns Hopkins University	Md.	Owen, William Edson LL.B. 1948, The George Washington University	
I.L.B. 1948, Temple University		Pollock, Charles Frederick Ph.D. 1933, University of Wisconsin	Wis.
Hornow, Herbert David LL.B. 1948, The George Washington University	Pa.	LL.B. 1939, The George Washington University	

JUNE 1, 1949

Arn, Lauren Arden A.B., LL.B. 1940, Ohio State University	Ohio	Corcoran, Daniel James LL.B. 1945, Washington University	Mo.
Ashley, Robert David LL.B. 1948, Boston University	Mass.	Dean, John Joseph A.B. 1941, LL.B. 1948, The George Washington University	N.Y.
Blum, Irwin Ellis B.S. 1933, Brooklyn College	N.Y.	Drain, Richard Dale A.B. 1942, LL.B. 1948, Yale University	D.C.
J.D. 1938, The George Washington University			

Duke, Norman Edward A.B. 1914, LL.B. 1935, University of Notre Dame	Va.	Roberts, Austin Leonard, Jr. A.B. 1941, College of William and Mary	N.J.
Fausel, Walter Eugene B.S. 1939, Pennsylvania State College LL.B. 1948, Washington and Lee University	N.J.	LL.B. 1948, The George Washington University	
Hunt, Leigh Hale A.B. 1928, LL.B. 1930, University of Illinois	Va.	Rohrer, Carl Peffer A.B. 1931, LL.B. 1933, The George Washington University	Va.
Kenner, Jack Linwood LL.B. 1941, University of Louisville	Va.	Sharratt, George Stanley H., Jr. LL.B. 1936, University of Missouri	Kans.
Lyngby, Alfred Robert B.S. 1937, LL.B. 1940, University of Alabama	Fla.	Shryock, Raymond DeSouville A.B. 1926, LL.B. 1929, University of Pennsylvania	Va.
Menter, Martin A.B. 1937, LL.B. 1939, Syracuse University	N.Y.	Smith, Edwin Stratford, Jr. LL.B. 1944, The George Washington University	Utah
Negus, Raymond Anthony LL.B. 1948, The George Washington University	Md.	Walker, Paul Howard LL.B. 1948, The George Washington University	Miss.
Reed, Richard Carl A.B. 1939, J.D. 1941, University of Iowa	Iowa	Wilson, John Samuel Joseph A.B. 1936, LL.B. 1939, Fordham University	N.Y.

DOCTOR OF JURIDICAL SCIENCE

JUNE 1, 1949

Olverson, John Benjamin B.S. 1947, American University LL.B. 1939, LL.M. 1941, Georgetown University	Va.
Dissertation: "The Clifford Regula- tions: A Trend Toward the Su- premacy of the Administrative Process"	

THE SCHOOL OF ENGINEERING

BACHELOR OF CIVIL ENGINEERING

NOVEMBER 11, 1948

Hennessy, Vincent Harry (With distinction)	D.C.	Lichtenberg, Arthur Gilbert	N.Y.
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FEBRUARY 22, 1949

Blanchard, Donald David (With distinction)	D.C.	Dudley, Robert Earl	Va.
Cooke, Thomas Blacknall A.B. 1930, College of William and Mary	N.C.	Sutherland, William Robert	Calif.
A.B. 1937, The George Washington University		Wheeler, Ford William	Pa.

JUNE 1, 1949

Allen, John Bolling (With distinction)	D.C.	Crossen, Gail Walden, Jr.	Ohio
Appel, Charles Andrew III	D.C.	Davis, Donald Vernoy	Pa.
Billore, Glen Handy	Va.	Given, Roland	Va.
Bennett, Vercille Leonard	D.C.	Griffin, Charles William, Jr.	Va.
Brown, Merrill Reynolds	Va.	Latta, Burr	D.C.
Chambliss, Charles Edward III	Md.	McGee, Hillie	D.C.
Cole, Walter Harvey, Jr.	D.C.	Michael, Jerrold Mark	D.C.
		Moy, Ernest	D.C.

Degrees Conferred

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Patch, Richard Lloyd	Va	Schwob, Robert Dean	Ill.
Rendelbach, John Albert, Jr.	Va	Stutley, Henry Jean	N.Y.
Russ, Robert Barnett	N.C.	B.S. in Ac Eng. 1943, New York University	
A.B. 1940, University of North Carolina		Tate, Thomas Rouse, Jr.	Md

BACHELOR OF ELECTRICAL ENGINEERING

NOVEMBER 11, 1948

Boggs, Gail Everett	D.C.	Kopp, Robert	N.Y.
Church, John	Md.	A.B. 1947, Brooklyn College	
(With distinction)		Nobel, John Adolph	D.C.
Cooper, Earl Dana	Va.	(With distinction)	
Fohrmann, Ernest Frederick	Va.	Nygard, John Clarence	N.Y.
Grant, James Augustus	Ala.	(With distinction)	
		Rubin, Sherwin	Pa.

FEBRUARY 23, 1949

Ansher, Norton	N.Y.	Levine, Seymour Solon	N.Y.
Cannon, Walter Robert	D.C.	Mayer, Reel Dennis	D.C.
Hullman, Robert Ephraim	Ga.	Mosell, Byron Butler	Fla.
Jolson, Marvin Arnold	Md.	Scoutt, Justin Clark	Kans.
Landers, Elmer Albert	N.Y.	Siman, Victor R.	D.C.
Leslie, Lester	Va.	Webb, Donald James	Wyo.

JUNE 1, 1949

Ammon, Milton Henry	Pa.	Lee, Edward Min	D.C.
Awaruk, Joseph, Jr.	Mass.	Lee, Jacob Franc	Pa.
Beatty, Jay Ralph	D.C.	Luce, Charles Francis, Sr.	Md.
Biloon, Robert Francis	Va.	Machlin, Arthur	N.Y.
Brown, Lawrence Edmund	Va.	MacGuck, Donald Millard	Pa.
Campbell, Charles Edward	D.C.	Messels, Henry Leonard	D.C.
Dallas, John Taylor	D.C.	Meyerson, Herbert	N.Y.
Dickman, Alfred	N.Y.	Morgan, Edgar Donald	N.J.
Doud, Robert DeVerle	Kans.	Musley, James Cleburne, Jr.	D.C.
Eshleman, Von Russell	Ohio	Mullins, Edward Hatcher	Md.
(With distinction)		Myers, Charles Frank	D.C.
Flato, Matthew	Md.	Rappaport, Nathan David	D.C.
Frahm, William J.	S.D.	Salzberg, Calvin David	N.Y.
Freeman, Lawrence Dudley	Mass.	(With distinction)	
Glenn, Arthur James	Calif.	Schach, Saul	N.J.
Goumas, Nicholas Peter	D.C.	Schofield, Graham	Ill.
Gulbrandson, Dan Ivor	D.C.	Shepherd, William Edward	Va.
B.C.E. 1941, The George Washington University		Shepherd, John Henry, Jr.	Md.
Heindiah, Bernard	Pa.	Smith, Lee Donald	Md.
Hekman, Norris Carroll	D.C.	Solomon, Sidney	D.C.
Katzman, Herman Julius	N.Y.	Somers, Leonard	Mass.
Kautz, Robert Myers	Md.	Stein, Mordecai	D.C.
(With distinction)		Trotter, Bernard Eugene	D.C.
		Via, Elmer Guy, Jr.	Va.

BACHELOR OF MECHANICAL ENGINEERING

NOVEMBER 11, 1948

Cioffi, John Joseph	N.Y.	Guerrant, William Samuel, Jr.	Va.
Coscombe, Raymond Armond	D.C.	Hastings, Dwight Fellows	D.C.
Falkenburg, Francis Clarence	N.J.	Osborne, Phillip Wallace	D.C.
Gaines, William Embrey	D.C.	Polk, Matthew Steele	D.C.
Geyer, Wallace Thomas	Md.	(With distinction)	
Glessner, John William	D.C.	Sunday, Elmer George, Jr.	Pa.
(With distinction)			

FEBRUARY 22, 1949

Clawson, Peter Carroll	D.C.	McCubbin, John Grayson	D.C.
Hix, Earnest Theodore	Va.	Miller, Norman Richard	D.C.
Koche, Robert Charles	Ill.	Richmond, Louis	N.Y.
Lee, Robert	D.C.	Russell, Stanton Best	D.C.
Levin, Alexander	N.Y.		

JUNE 1, 1949

Aikman, Edward	D.C.	Kistler, Wallace Grover, Jr.	D.C.
Allen, Thomas Keith	Kans.	Lewis, Frederick Roland	Va.
Allison, William Butterworth	Va.	Lippitt, Edward Gardner, Jr.	W.Va.
A.B. 1940, Gettysburg College		Lippitt, Raymond Franklin	D.C.
Braugh, Frank Charles	D.C.	Manville, Robert Wellensiek	D.C.
Burnham, George Richmond	Conn.	McCall, Lloyd Newell	Va.
Coffey, Francis Marion, Jr.	Md.	Mehlhope, John Frederick	D.C.
Cruickshanks, Benjamin Carpenter, Jr.	D.C.	Nichols, Harry Edwin	Ky.
(With distinction)		Orebaugh, Andrew Edward	W.Va.
Czajkowski, Norman	Md.	Petrobono, Alfonso	N.Y.
Downing, Merritt	Va.	Quill, John James	Mass.
Eakin, Birch Hitt	D.C.	Reddle, Victor Leon	Va.
Eldridge, Richard Adams	D.C.	Ritchie, Frederick Monks	Md.
Everett, Ernest Edward	Va.	Schmitt, Page Marston	Md.
Geist, John Henry	Va.	Sinsabaugh, James Alexander	Va.
Heiliczer, Joseph	N.J.	Suzine, Robert Travis	D.C.
Hutto, Henry Elvin	Fla.	Tinkelenberg, Albert David	D.C.
Jensen, Earl Harriet	Okla.	Toal, Vincent James	D.C.
Juncal, Raymond Wright	D.C.	Warlick, James Bowen	D.C.
Keat, James Edmund	Ill.	Woodward, Kenneth Emerson	D.C.
Kemethor, Robert Elias	N.Y.		

BACHELOR OF SCIENCE IN ENGINEERING

NOVEMBER 11, 1948

Altieri, John Lambert	D.C.	Zorzy, John	Mass.
Craig, Dwin Richardson	D.C.		

FEBRUARY 22, 1949

Belcher, Philip George	N.Y.	O'Brien, Ralph Vincent	Md.
Golden, Leopold	N.J.	Wroblicks, William	Mass.

JUNE 1, 1949

Brown, Laurence Ray	Colo.	Levy, Henry Abraham	D.C.
Cullen, Frank Haywood	Va.	McMann, Robert Case	Va.
Freeman, William Clarence, Jr.	N.Y.	Taphorn, Joseph Bernard	Ill.
Friedman, Seymour Jack	N.Y.	B.S. 1943, University of Illinois	N.Y.
Haskell, James K.	Calif.	Weiss, Marvin David	

THE SCHOOL OF PHARMACY

BACHELOR OF SCIENCE IN PHARMACY

NOVEMBER 11, 1948

Kleinfelder, James Jesse	Va.
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FEBRUARY 22, 1949

Lippmann, Morton	N.Y.	Rubin, Samuel Benjamin	D.C.
Nelson, Edward Monroe, Jr.	W.Va.		
(With distinction)			

JUNE 1, 1949

Batease, John Charles
Brown, Harold Kent
Campbell, Louis Cellars, Jr.
Davis, George Alfred, Jr.
Dinneen, Margaret Catherine
Goldstein, Jack
Hansen, Herbert Orville
Hawthorne, Charles Byrd
Howison, Irene Santz
Jacobs, William Henry
Keller, Arvilla M.
Levinson, Monroe Joseph
Lichtenstein, Harold
Litman, Albert
Martin, Paul Calvin

Md.
D.C.
Va.
Md.
Minn.
N.J.
D.C.
Va.
D.C.
Pa.
Pa.
D.C.
N.Y.
D.C.
Pa.

McFall, Bryan Campbell
Miner, Richard Leo
Paidakovich, Matthew Joseph
Palder, Edward Lawrence
Pruce, Alfred Albert
Robicheau, Dorothy Cecilia
Russo, Robert Vincent
Rott, Carl Frederick
Schaffrin, Richard Edward
Schuldsteyn, Rachmill
Simman, Henry Dick
Waganheim, Zelik
Whitley, Clyde Elford
Wolfe, Charles Randolph
(Special honors in Pharmacy)

D.C.
Md.
Pa.
D.C.
Md.
Md.
N.Y.
Pa.
D.C.
Va.
D.C.
D.C.
D.C.
Va.

THE SCHOOL OF EDUCATION

BACHELOR OF SCIENCE IN HOME ECONOMICS

NOVEMBER 11, 1948

Brown, Virginia Geraldine

D.C.

Mappus, Marie Hamm

D.C.

FEBRUARY 22, 1949

Forbes, Ann Katherine
A.B. 1944, Trinity College

D.C.

Higgins, Oma Hilliard
Hughes, Edna Cornelia

Tenn.
D.C.

JUNE 1, 1949

Enriquez, Jean Gordon
Evans, Madie Elizabeth
Feldman, Grace Rae
Frohman, Mary Satterlee

Va.
Ark.
D.C.
D.C.

Groves, Nancy Alice
(With distinction)
Ramsdell, Ruth Ann

D.C.
Va.

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

NOVEMBER 11, 1948

Creme, Anthony Rido
Garnett, Carroll Marion

N.Y.
Va.

Kley, Frank Carl, Jr.

Md.

FEBRUARY 22, 1949

Brannon, Joan Virginia

D.C.

Jacobs, James Witley

Md.

JUNE 1, 1949

Arnold, Mary Ann
Chronis, Alexander
Evry, Allen
Fenlon, Raymond Henry
Haithcock, Maynard Kitchin
Hartman, Robert Warner
Hinckley, William Russell
Kephart, Calva

Va.
Pa.
D.C.
Mich.
N.C.
W.Va.
Idaho
Va.

Lawlor, Patricia Mary
Lee, Lily Kwai Keui
Pope, Patricia Evelyn
Ruskey, Evelyn Mae
Robinson, Robert Strother
Schulman, Sidney
Stering, Gisela

Wash.
Hawaii
D.C.
Va.
Va.
D.C.
D.C.

BACHELOR OF ARTS AND MASTER OF ARTS IN EDUCATION (Five-Year Program)

NOVEMBER 11, 1948

O'Reilly, Marjorie Helen Md.
(With distinction—Special honors
in Education)

JUNE 1, 1949

Hensley, Guy Stephen D.C.
A.B. 1936, University of Oklahoma

BACHELOR OF ARTS IN EDUCATION

NOVEMBER 11, 1948

Carpenter, Caleb Fred
Coffman, Clara Lillian
Coppa, Julia Anne
Crovo, Patricia Ann
Grogan, John Barry
Hahn, David Emanuel

Okla. Lawrie, Ruth Myrtle Elizabeth
Va. Lillard, Kathleen Flester
Va. Perlo, Hyman Myer
Md. Pick, Lula Maxine
Va. Robbins, Edward Morris
W.Va.

Ohio
Va.
D.C.
W.Va.
D.C.

FEBRUARY 22, 1949

Dugdale, Donna Elizabeth
Ebert, Henrietta Randolph Wirt

Ind. Layos, Joseph Kenneth
Va. Ludka, Chester Edward

Va.
N.Y.

JUNE 1, 1949

Allman, William Dominic, Jr.
(With distinction)
Ball, Kenneth, Jr.
Bachour, Mary Jane
Caplan, Dorothy Hulda
Heckman, Dorothy Anita
Jordan, Rena Claire
Maymi, Protasio
M. Nelson, Samuel
O'Loughlin, Frank Xavier

D.C. Pleacher, John King
W.Va. Ray, Laurence Victor, Jr.
Va. Russo, Mary Amelia Orton
D.C. Shelly, Herbert Hunter
N.D. Sisten, Ann Helen
Mass. Spitalney, Claire Toby
Puerto Rico Waugh, Carolyn Lydia
N.Y. Whaley, Mary Virginia
Pa. Yurman, Alvin Irving

Pa.
Va.
Wis.
Va.
D.C.
D.C.
Maine
W.Va.
N.Y.

MASTER OF ARTS IN EDUCATION

NOVEMBER 11, 1948

Alsbaugh, Jack Russell
B.S. in Ed. 1936, A.B. 1937, Northwest
Missouri State Teachers College
Allen, Sylvia Dunnivant
B.S. 1940, State Teachers College,
Farmville, Va.
Arvidson, Dorothy Ruth
B.S. in H.E. 1942, Purdue University
Berkowitz, Leon
A.B. in Ed. 1934, University of
Pennsylvania
Berdine, Lillian
A.B. 1930, Hunter College
Boehlert, Rosemary
A.B. 1939, The George Washington
University
Bortz, Ellen Laubacher
B.S. in Ed. 1945, Wilson Teachers
College

Mo. Boylan, Mary Agnes
A.B. 1939, University of Minnesota
Va. Christie, Thomas Herbie
Va. B.S. 1930, William and Mary College
DeAngelis, Vincent James
B.S. in P.E. 1930, The George Wash-
ington University
Ind. Dixon, Kenneth Fife
D.C. A.B. 1945, The George Washington
University
Md. Dowling, Nellie Frances
B.S. 1931, Columbia University
Md. Durbin, Jean Lofgren
D.C. B.S. 1943, University of Pittsburgh
Md. English, Harry Cole
D.C. B.S. 1935, Wilson Teachers College
Flood, Thomas Hayes
B.S. in Ed. 1936, New York State
Teachers College, Buffalo

Va.
Va.
Va.
D.C.
Va.
Md.
Md.
D.C.

Friauf, Helen Cox A.B. 1947, The George Washington University	Va.	Piercy, Weeta Paige B.S. 1918, Wilson Teachers College	N.C.
Frischmann, Donald William B.S. in Ed. 1942, State Teachers College, Indiana, Pa.	Va.	Power, Elsie Margaret A.B. 1919, Coe College	Iowa
Godsey, Katherine McBrien A.B. 1928, University of Chattanooga	Md.	Ray, Claude Madison A.B. 1912, Washington and Lee University	Md.
Green, Walter Irving A.B. 1937, University of Maine	D.C.	Roberts, Charles Gilbert, Jr. B.S. 1944, Springfield College	Md.
Horton, Archibald Robinson A.B. 1919, Yale University	Va.	Rutherford, Palmer St. Clair B.S. 1926, Roanoke College	Va.
Kadri, Mohamed Said A.B. 1929, Fouad I University, Cairo, Egypt	D.C.	Saltzer, Jay Blaine B.S. in Ed. 1937, State Teachers College, Bloomsburg, Pa.	Pa.
Layhee, Harold Franklin A.B. 1948, The George Washington University	N.Y.	Shorick, William B.S.S. 1942, College of the City of New York	N.Y.
Lewis, Frank Hedges B.S. 1917, University of Maryland	Md.	Simmons, Evelyn J. McDonald A.B. 1947, The George Washington University	Iowa
Lincoln, Judson Duley A.B. 1941, University of Maryland	Va.	Walker, Helen Ruth B.S. 1938, Wilson Teachers College	D.C.
Lopez, Leo William A.B. 1937, St. Mary's University of San Antonio	Tex.	Wampler, Frederick Francis A.B. 1947, Bridgewater College	Va.
Mercer, Hallie Nell Mahala B.S. 1916, San Marcos Teachers College	Tex.	Waters, William Louis, Sr. B.S. 1941, Appalachian State Teachers College	N.C.
M.S. 1942, East Texas State Teachers College		Weiler, Harold Frederick B.S. 1941, Randolph-Macon College	Va.
Miller, Betty Marie A.B. 1947, The George Washington University	D.C.	Willett, Lawrence Edgar B.S. in Ed. 1945, University of Missouri	D.C.
Palmer, Gladys Edith A.B. 1945, The George Washington University	Va.	Wingo, Lydia Hilldrup B.S. 1941, Mary Washington College	Va.
Pecke, Raymond Graer A.B. 1917, Park College	Mich.	Wright, William Wilson B.S. in Ed. 1941, University of Virginia	Va.
		Yohn, Edna Mae A.B. 1935, Juniata College	Pa.

FEBRUARY 22, 1949

Agusiewicz, Henry Anthony B.S. 1947, The George Washington University	Pa.	Gutiérrez del Rio, Blanca M. A.B. 1931, University of Puerto Rico	Puerto Rico
Apodaca, Anacleto Garcia B.S. 1940, New Mexico College of Agriculture and Mechanic Arts	Tex.	Kerwan, Thomas John B.S. in Ed. 1940, Pennsylvania State Teachers College, Mansfield	Va.
Carrillo, Maria Manuela A.B. 1949, University of Puerto Rico	Puerto Rico	Lang, John Carl A.B. 1947, State Teachers College, Valley City, N. D.	S.D.
Clark, Orpha Agnes B.S. 1941, University of Maryland	Md.	Michelbach, Esther Cain B.S. in Ed. 1941, Mary Washington College	Va.
Coleman, Juliette Cox A.B. 1927, University of Richmond	D.C.	Rich, Irene Silverman B.S. 1948, Wilson Teachers College	D.C.
Dawson, Edward Balloch A.B. 1936, Princeton University	D.C.	Ruddy, Alice Marie B.S. 1940, Maryland College	D.C.

JUNE 1, 1949

Allegr, Theodore Henri A.B. 1947, The George Washington University	N.Y.	Callas, Eliza Epley A.B. 1910, Lenoir-Rhyne College	D.C.
Atkins, John Dillard, Jr. B.S. 1940, North Carolina State College of Agriculture and Engineering	Va.	Carpenter, Caleb Fred A.B. 1948, The George Washington University	Okla.
Beck, Helen Mabel B.S. 1922, University of Texas	D.C.	Conn, Gilbert De Voe B.S. in P.E. 1914, The George Washington University	Md.
Belton, Alice Rohrer B.S. 1932, Madison College	Va.	Cook, James Manning B.Ed. 1941, State Teachers College, Fredonia, N. Y.	N.Y.

Eareckson, Ruth Brown B.S. 1933, Wilson Teachers College	Va.	Munchmeyer, Charlotte B.S. 1942, Wilson Teachers College	Va.
Giancaspro, John B.S.S. 1942, College of the City of New York	N.Y.	Paddock, Marianna A.B. 1933, University of Michigan	Ill.
Gnatt, Solomon B.S. 1947, Wilson Teachers College	D.C.	Parker, Louise Buell Ed.B. 1947, Pottsdam State Teachers College	N.Y.
Grogan, Charles Henry B.S. 1941, The George Washington University	Va.	Phillips, Virginia Clay B.S. 1938, Kirksville State Teachers College	Mo.
Harris, Georgia Dieterich A.B. 1932, Culver-Stockton College	Va.	Retzlaff, Bernice Ruth B.S. in Ed. 1945, University of Nebraska	Nebr.
Hart, Robert Norton B.S. 1941, Wilson Teachers College	D.C.	Richardson, George William B.S. 1941, The George Washington University	D.C.
Hopper, Katherine Edmondson B.S. 1930, Mary Washington College	Va.	Robbins, Edward Morris A.B. 1948, The George Washington University	Md.
Kern, Jeanette Geschickter A.B. 1912, The George Washington University	D.C.	Runyan, Robert Laymon B.S. 1930, College of Wooster	D.C.
Kessel, Roy Franklin A.B. 1940, Fairmont State College	W.Va.	Shott, Mildred Hollander B.S. 1948, Wilson Teachers College	D.C.
King, Reta Marie A.B. 1935, West Virginia Wesleyan College	Pa.	Smith, Mary Gertrude A.B. 1932, The George Washington University	D.C.
Layon, Joseph Kenneth A.B. 1949, The George Washington University	Va.	Tompkins, Virgil Everett B.S. 1942, State College for Teachers, Albany, N. Y.	N.Y.
Mackiernan, Darrell Enthia A.B. 1914, University of Maine	D.C.	Wagner, Richard B.S. 1927, United States Naval Academy	Va.
McClintock, Isabelle Dorland A.B. 1942, Florida State University	D.C.	Welch, Elizabeth Churchill A.B. 1945, The George Washington University	N.Y.
Moorhead, Joseph William A.B. 1948, American University	Va.		
Moss, Helmi Amanda Holmlund B.S. 1933, Framingham State Teachers College	D.C.		

DOCTOR OF EDUCATION

NOVEMBER 11, 1948

Root, Blake Smith B.S. 1927, Monmouth College A.M. 1933, University of Illinois Dissertation: "The Induction of New Teachers"	Ill.	Ruffner, Ralph Windsor A.B. 1915, University of Maryland A.M. 1940, The George Washington University Dissertation: "The Evaluation of an Internice Training Program, with Special Reference to the Training Program for Service School Officers, United States Navy"	D.C.
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JUNE 1, 1949

Brougher, John Frederick A.B. 1926, A.M. 1929, Columbia University Dissertation: "The Program of the Occupational Information and Guide- ance Service, United States Office of Education, 1938-1948"	Va.
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SCHOOL OF GOVERNMENT

BACHELOR OF ARTS IN GOVERNMENT

NOVEMBER 11, 1948

Adams, Richard Hugh	N.C.	Alvord, Charles Hulbert, Jr.	Va.
Aiken, Bernard	Md.	Baggs, Isabel Jane	W.Va.
Aiken, John Howard	D.C.	Barton, William Jacob, Jr.	Md.

Bauman, John Lee, Jr.	Nebr.	Janson, Lars Edward	Va.
Bearss, Dale Ward	Mich.	Jones, Hubert Glenn	Ga.
Bernstein, Joseph	Pa.	Jones, Robert Paul	D.C.
Berthold, Herbert Kurt	Ind.	(With distinction)	Ohio
Bibb, Lawrence Clayton	Va.	Juengst, George William	N.D.
Billings, Virginia Ruth	Ill.	Kaye, Robert Adolph	N.Y.
Bishop, Alan Grayson	D.C.	Klassner, Benjamin	Okla.
Boyer, John Alton	Md.	La Barr, Robert Victor	Ill.
Bracey, Harry Bell, Jr.	Tenn.	Lamar, Harold Thomas	N.Y.
Brooks, Charles Kenneth	N.Y.	Landis, Peter Andrew, Jr.	Pa.
Bumgardner, Edward Larrick	Va.	Lane, Wesley Edward	Ohio
Carter, Robert Irving	Okla.	LeBlanc, Diana	Md.
Church, Abiah Adelbert	Fla.	Leonard, Ethel-Louise	Md.
Cohen, William	D.C.	Lester, Robert Thomas	Md.
Damon, John	Mass.	Levinson, Raymond Harold	Pa.
Dancy, Allen Joseph	Va.	Lyman, Lawrence	N.J.
Davis, Donald Bull	N.Y.	Manne, Jacqueline	Tex.
Dean, Dorothy Louise	Va.	Matthews, Charles Donald	Va.
de la Garza, Hector Ruben	D.C.	McCart, James Wilson	D.C.
Delasos, Lewis	D.C.	McCeney, Norman Francis	Tex.
Detmer, James Edwin	Ind.	McLean, Evelyn Lane	Va.
(With distinction)	N.Y.	Mulson, Pauline	Pa.
Dobkin, Abraham	D.C.	Painter, Eleanor Margaret	Md.
Doman, Francis		Palmer, William Colton	D.C.
S.J.D. 1938, Royal Hungarian Uni-		Peters, Arthur	N.Y.
versity, Budapest, Hungary	Md.	Platt, Edward Andrew	Sweden
Doran, Roger LeRoy	D.C.	Renborg, Bertil	D.C.
Doukas, John Michael		Robbins, Jesse	N.Y.
LL.B. 1948, Harvard University	Mass.	Roskman, Leonard Julian	N.J.
Dwyer, John Joseph	Wis.	Rottenberg, Seymour Abner	Pa.
Engelstad, Julian Barthol	N.Y.	Sanders, John Albert	D.C.
Faber, Sidney	N.J.	Savary, George Alexander	Wis.
Ferrara, Gennaro		Scheitzer, Robert John	Md.
(With distinction)	Ohio	Short, Claire Ann	Minn.
Flynn, Joseph John	Va.	Sirmai, Albert	N.H.
Fontaine, Guy Edward	Vt.	Smith, Nira Oberlene	D.C.
Garcia, Robert	N.Y.	Smith, Roy Lindsay, Jr.	R.I.
Gekker, Paul		Smith, Russell Willard	Iowa
(With distinction)	D.C.	Steele, Elroy Junior	Va.
Gilbert, Paul Edward, Jr.	Md.	Steinfert, Oliver Wallace	Ohio
Gittleman, Herman Max	Wash.	Stoyanov, Sam	Md.
Glaspey, Glen F.	Maine	Swartz, Eugene	Mo.
Gottlieb, Howard Bernard	N.Y.	Swope, Harold Carl	Mich.
Greenstein, Sidney	S.C.	Thomas, Paul Bruce	N.I.
Hammond, Julian Bryan	D.C.	Thompson, David Lathrop	D.C.
Harris, Herschel	Tex.	Vanderpol, Jack	Md.
Harris, Joe Milton	D.C.	Veily, George Grover	D.C.
Harvey, Robert Henry	Md.	(With distinction)	Maine
Heath, Douglas Laird	D.C.	Wilkinson, Mary Bishop	Calif.
Heine, Henry Colegrove	D.C.	Willett, John Raymond	Mass.
Henson, Edwin Nott, Jr.	Md.	Williamson, John George	N.Y.
Hergenrath, Charles Neale	Md.	Wills, Albert Michael	D.C.
Hood, Courtney Clark	Pa.	Windheim, Sandoe	D.C.
Houser, Frederick Russell	Ga.	Wood, Harvey Earl	D.C.
Jackson, Joseph Warren		Wostein, Benjamin	

FEBRUARY 22, 1949

Andrews, Robert Bruce	Mass.	Cohen, Saul Benjamin	D.C.
Bartlett, William Hugh	Va.	Comoran, John Francis	Mass.
Beigel, Betty Klotz	Md.	Cremen, William Starr	Va.
Berson, Harold Ralph	Nev.	Cummings, Eileen Jane	N.Y.
Calloway, Charles Calvin	Okla.	Curtin, Paul Keller	Conn.
Cantrell, Lawson James, Jr.	D.C.	Curtis, Lyle S.	Utah
Caruso, Lawrence Robert	N.J.	Davis, Clifford, Jr.	Tenn.
Chen, Ming	China	Davis, Gordon	Md.
(With distinction)		Defrin, Seymour	N.Y.
Cherwek, Stanley	Mass.	(With distinction)	Miss.
Chow, Bettine	China	Dempsey, Jene Leonard	Pa.
Clift, Robert Morris	Tex.	Dilliplane, Earl Kenneth	Va.
Cohn, Jack	N.Y.	Ebert, Charles Randolph	

Elliott, Frank Carson
 Eustace, William Elmer
 Finney, Robert Sawyer
 Fiolek, Jacob Peter
 Flack, Chester
 Flecknoe, Harold Joseph
 Fling, Martha Kathryn
 Gilbert, George Milton
 Gray, Lawrence Ulysses
 (With distinction)
 Gross, William, Jr.
 Gunod, Seymour David
 Haahr, James Christian
 Henoch, Arthur Saul
 Hoag, Irving Charles, Jr.
 Hundley, Herbert Wendell
 Hunt, Lyman Willis Lee
 Jackson, Charles Louis
 Jackson, James Douglas
 Jordan, Allan William
 Kaczmar, William
 Kakalec, John
 Katz, Julius Louis
 Kemer, Frank Conrad
 Klein, Milton
 Koutoulakos, Louis
 Kucirek, Ernest Frank
 Lavoe, Normand Paul
 Linden, George
 (Special honors in Statistics)
 Livesay, Kathryn Ann
 Longfellow, Edwin Conor
 Loren, William Odin
 Luther, Mary Jean
 Masucci, Robert H.
 (With distinction)
 Matson, Richard Lee
 McDade, James Wright
 McDonough, William Royce
 McElroy, Charles Raymond
 McKendrick, James Hendon
 McSoud, Clovis Fred

Pa.
 Va.
 Ariz.
 Conn.
 Va.
 Pa.
 Ga.
 Fla.
 Va.
 Wis.
 N.Y.
 Minn.
 N.J.
 Mass.
 D.C.
 Okla.
 Ind.
 D.C.
 Va.
 Pa.
 Pa.
 N.Y.
 Md.
 N.Y.
 Va.
 Nebr.
 Maine
 N.Y.
 Me.
 N.J.
 Va.
 Tex.
 D.C.
 Iowa
 Tex.
 Mont.
 Iowa
 Ala.
 Okla.
 Miller, Andrew John
 Mooers, John Eden
 Moore, Jack Martin
 Nelson, Carl August
 Ness, Juell Rockford
 O'Brien, Richard Glynn
 Perlmutter, Jerome Herbert
 (With distinction)
 Peterson, Dean Constantine
 Piper, Charles Woods
 Printup, Jack Edmundson
 Raver, Arthur Cornelius
 Roach, Francis Joseph
 Scherer, Solomon
 Schoen, Richard Davis
 Sedlacek, Emanuel Joseph
 Shadler, Donovan Keith
 Sheridan, Robert Anthony
 Simmons, Howard Helmuth
 Sligh, Frederick Henry
 Sload, Philip Henry
 Smith, Charles Henry, Jr.
 Snyder, Donald Kenneth
 Stehl, Edward III
 Stolar, David Maurice
 Stroup, Windsor William
 Suttman, David
 Tepper, Robert Joseph
 Tickel, Jobe Carlton
 Tollefson, Robert Homer
 Trimble, Eugene Earl
 Troiano, Frank Anthony
 Tull, Robert Lewis
 Van Sanford, Gordon Myron
 Watta, Byron C.
 Webb, Kenneth William
 (Special honors in Statistics)
 West, Jack Burlington
 Wiley, Earl Brooks
 Woolard, Raymond Morgan
 Wright, Walter John

N.Y.
 Va.
 Md.
 Conn.
 S.D.
 La.
 N.Y.
 Va.
 Fla.
 N.J.
 Nebr.
 Pa.
 N.Y.
 Va.
 Md.
 Mont.
 D.C.
 Calif.
 Va.
 Va.
 Va.
 Pa.
 Va.
 D.C.
 D.C.
 D.C.
 N.Y.
 N.C.
 Wash.
 Ky.
 N.Y.
 D.C.
 N.M.
 Utah
 N.Y.

JUNE 1, 1949

Agayoff, Theodore Daniel
 Anderson, John George
 Anderson, Otis Roy
 Arnn, Aubrey Allen
 Arthur, Lester Maxwell, Jr.
 Balla, Michael Philip
 Baskin, Robert E.
 Baza, Edmund Theodore
 (With distinction)
 Beatty, Vernon LeRoy
 Behrens, Raymond William
 Bellemah, Frederick Joseph
 Benington, Orchard
 Benkovic, Simon Edward
 Bennett, Kenneth Homer
 Berman, Hyman
 Bilohlavak, Andrew John, Jr.
 (Special honors in Accounting)
 Bird, James Frederick, Jr.
 Blake, William Lucius
 Blakemore, George Jefferson, Jr.
 Boisen, Morton
 Borrus, Bernard David
 Bromer, Louis
 Brown, Martin

Conn.
 N.Y.
 Okla.
 D.C.
 Va.
 Pa.
 Va.
 Kans.
 Pa.
 D.C.
 D.C.
 Va.
 Pa.
 Ohio
 N.Y.
 Pa.
 D.C.
 D.C.
 Pa.
 D.C.
 N.J.
 N.Y.
 N.Y.
 Brownholtz, William Walter
 Bruskin, Leo
 Bullockus, Theodore
 Burkley, Robert Blair
 Cadeaux, Ralph Helale
 Capizzi, Edward Joseph
 Carroll, Thomas Wynn
 Carter, Cranford
 Carter, Darrell Denmeade
 Carter, Marilyn
 Carulli, Leonard
 Caselton, Paul Nicholas
 Castle, John Bayne
 Chew, Allen Frank
 Chin, Robert
 Chrisman, Melvin Lee
 Climpson, Harley Ronald
 Cohen, Lawrence
 Collins, William Royston
 Colwell, Millicent
 Cornell, Lacy Paul
 Coster, Howard Littleton
 Cowell, Charles Ellwood, Jr.
 Currin, John Langford

Pa.
 Conn.
 D.C.
 D.C.
 D.C.
 Pa.
 N.Y.
 Ga.
 Ill.
 Calif.
 Mass.
 Ill.
 Md.
 Pa.
 D.C.
 D.C.
 Ill.
 N.J.
 Fla.
 Colo.
 Md.
 D.C.
 Pa.
 Va.

Dalton, Thomas James	Va.	Moran, Charles Vincent	Va.
Daubanton, Conrad Jacques	Netherlands	Morris, James Peter	Conn.
Davis, Raymond Arthur	Ohio	Moser, Ben	Va.
Dilli, Barbara Lindsey	D.C.	Mullins, Jessie Edith	Va.
Dodds, Rosemary	Tex.	Murphy, Barbara Fuller	D.C.
Donnett, William Edward	Calif.	Nershi, Michael Thomas	N.J.
Dusseault, Henry Aimé	N.H.	Newnam, William Webster	Pa.
Echeverri C., Anibal	Colombia	Newquist, Noel Clayton	Kans.
Epstein, Matthew Herbert	N.Y.	Nichols, Warren James	Md.
Famacher, Harry William	Va.	Nones, Walter Lohmann	D.C.
Eubank, David Sutton	Va.	Outes, Walter Foster, Jr.	Va.
Eytchson, Vernon Leland	Ill.	Papadotis, Spero John	D.C.
Farrell, Samuel James	Conn.	Paternoster, Joseph Anthony	Pa.
Finnell, Donald Edward	D.C.	Paulach, Eugene Bernard	Pa.
Fischer, Harry Carl	D.C.	Perez, Frank Herbert	D.C.
Flakowicz, Karol	N.Y.	Petisko, John	Pa.
Fredrickson, Ferne Oscar	Md.	Ramsey, Robert Theodore	Wash.
Freundel, Milton	N.Y.	Robertson, James Richardson, Jr.	Va.
Fulton, Leroy Edgar	N.Y.	Rogers, William Gene	Iowa
Galloway, Clark Hamilton	Calif.	Rorert, Troy Doyle, Jr.	Va.
Garcia, Manuel Gilberto	N.Y.	Ross, Henry	R.I.
Gargus, Wilbur Lawrence, Jr.	Ariz.	Rubin, Marvin	Md.
Geler, Conrad Schroeder, Jr.	W.Va.	Russ, Dorothy Ann Catherine	Calif.
Gelles, Marvin Irving	Va.	Sandness, Robert Louis	D.C.
Gibbs, Verne Wesley	D.C.	Sandness, Dean Edward	Ohio
Goldman, Samuel Zachary	Calif.	Schlap, Elean Edward	Conn.
Gordon, Thomas Cooper	D.C.	Schneider, Ella Kathryn	N.Y.
Graham, George Greenfield, Jr.	Va.	Schnapper, Herbert	N.Y.
Gross, William Burton	D.C.	Schwartz, Morton Julius	Ill.
Gross, Martin	W.Va.	Seward, Morton William	Va.
Hamblen, Dana Harmon	N.Y.	Sharril, Adrian Grant	Conn.
Harnan, Arthur Crawford, Jr.	Tenn.	Sheehan, Edward Patrick	Conn.
Hansen, Herman	D.C.	Shelden, Lewis Samuel	W.Va.
Hennessy, James Joseph, Jr.	D.C.	Slamp, LaVerne Charles	D.C.
Hershman, Marshall	Pa.	Shaney, Fred Williams, Jr.	Ind.
Hess, Wilbur Kenneth	Mass.	Shookman, Lloyd Allen	Pa.
Hoffman, Bruce Nowell, Jr.	Va.	Silbert, Gerald Melvin	D.C.
Hurst, Donald Andrew	Md.	Simpson, William Littlejohn	Calif.
Isaac, Isadore	Va.	Skelly, George Martin, Jr.	N.Y.
Jacob, Wayne Thompson	Pa.	Smith, Paul Henry	Md.
Jaskiewicz, Joseph Francis	N.Y.	Smith, Thomas Arthur II	N.C.
Karam, Peter Spiros	Pa.	Smith, Wallace Marcell	D.C.
Keller, William Charles	D.C.	Snyder, Glenn Harold	N.Y.
(With distinction)	Pa.	Sosna, Louis Robert	Tenn.
Kimball, Orin Belvin	N.C.	Spencer, Robert Mitchell	N.C.
Klein, Robert M.	Ohio	Spurdes, James Dennis	Tex.
Kostik, Peter James	Ohio	Spurves, Ernest Myrl	D.C.
Koutzes, Tom	Ill.	Steenkolk, Roger	W.Va.
Krebs, Henry Charles	D.C.	Steady, Paul Jay	Va.
Laffey, Cyril Joseph	Md.	Talley, James Staton	D.C.
Landis, Samuel Edgar	Pa.	Tarste, Carl Max	Md.
Lane, Archibald	D.C.	Ternery, Billy Jack	N.C.
Laughlin, James Roxmer	Md.	Tew, Charles Weaver, Jr.	D.C.
Lawson, Jan Lloyd	Va.	Thomas, Earl Aronah	Ohio
Lee, Thomas Wai Yuen	Hawaii	Vahe, Barbara Marie	N.J.
Leech, Walter Murray	Va.	Van Neste, Wilbur Lane	N.J.
Levy, Robert Dennis	Conn.	Van Nieuwen, Leonard	D.C.
Lindsay, James Carey	Va.	Vans, Richard Branson	W.Va.
Livengood, Ralph Leon	Mo.	Vincent, Warren Hubert	Va.
Liverman, Myrtle Louise	Va.	Vonneuman, Nicholas August	D.C.
Lohm, Thomas Alexander	Md.	Vonvey, Alexander	Great Britain
Lundy, Julian Percy	D.C.	Wainston, Leonard	
(With distinction)		(With distinction)	
Luther, Elmer Eugene	Mo.	Wartel, Robert James	D.C.
Lynn, Donald Mason	D.C.	Weathers, Mildred Wright	Ga.
Macekura, Joseph	Pa.	Wesley, Harold Burton	N.Y.
Martin, Hugh Ingram	N.Y.	Whitley, Dorothy Lucille Main	Kans.
Mathews, Georgina Hammond	N.Y.	Whitt, Gordon Alfred	D.C.
McGuinness, George Dennis	N.Y.	Wiedemann, Sheila Margaret	W.Va.
Mears, John Stephen, Jr.	Ind.	Wilms, William Francis	Conn.
Mellen, Robert David	Va.	Winborne, Sidney Allen	N.C.
Michaelis, Edgar	D.C.	Winders, Mildred Etta	Iowa
Moose, Coy E., Jr.	Va.	Wolfe, Harvey Everett	N.Y.
		Wolff, Louis	Va.

MASTER OF ARTS IN GOVERNMENT

NOVEMBER 11, 1948

Berkowitz, Leonard Moses	N.Y.	Jackson, Joseph Brown, Jr.	Tex.
A.B. 1940, Brooklyn College		A.B. 1946, Texas Technological College	Fla.
Dowdy, Sam Gene	Mo.	Mann, Robert Trask	Mo.
A.B. 1946, The George Washington University		B.S. 1946, University of Florida	China
Earl, Charles Merritt, Jr.	Md.	McNabb, Victor Owen	D.C.
A.B. 1941, Western Maryland College		B.S. 1935, University of Missouri	D.C.
Fernald, Charles Albert	Ohio	Pan, Chao-Sung	D.C.
A.B. 1944, Ohio State University		LL.B. 1943, Soochow University	D.C.
George, Robert Benjamin	Pa.	Vasa, George Oakley	D.C.
B.S. 1940, Bucknell University		A.B. 1947, The George Washington University	D.C.
Harrington, Alice Corinne	Calif.	Walton, Hugh McKelden	D.C.
B.S. 1940, State Teachers College, Florence, Ala.		B.S. 1942, University of Maryland	D.C.
Harrington, Charles Wilmott, Jr.	Wash.	Ward, Francis Bernard	
A.B. 1948, The George Washington University		B.S. 1934, Marquette University	

FEBRUARY 22, 1949

Budney, Stephen	N.Y.	Padgett, Edward Riddle	Md.
A.B. 1939, Brooklyn College		A.B. 1947, Johns Hopkins University	Ohio
David, Robert Spencer	Calif.	Skaggs, Bruce	N.Y.
B.S. 1938, University of California		A.B. 1942, The George Washington University	Utah
Kalmans, Lorraine	D.C.	Spear, Moncrieff Johnston	N.Y.
B.S. 1941, Wilson Teachers College		A.B. 1946, Cornell University	Mo.
Kirby, James Wardlaw	S.C.	Talmage, Henry Gardner	Pa.
A.B. 1945, The George Washington University		A.B. 1948, The George Washington University	
Kukoaki, Leonard K.	D.C.	Tiedemann, Frank Henry	
A.B. 1947, The George Washington University		B.B.A. 1943, College of the City of New York	
Miller, Boulton Bainbridge	Ill.	Walstrom, Charles Bowen	
A.B. 1948, The George Washington University		A.B. 1940, The George Washington University	
Nelson, Stuart David	Conn.	Yavil, Minnie	
A.B. 1948, The George Washington University		B.S. 1937, Temple University	

JUNE 1, 1949

Adamson, George Quentin	Md.	Gekker, Paul	D.C.
B.S. 1935, Iowa State College		A.B. 1948, The George Washington University	Conn.
Allen, Dwight Lowell	Tex.	Harde, Dudley Brown	Tex.
B.S. 1939, Texas Christian University		A.B. 1927, Yale University	D.C.
Baker, Louis Robert	D.C.	Harris, Robert Early	D.C.
B.S. in Ed. 1940, State Teachers College, Superior, Wis.		B.B.A. 1937, Texas College of Arts and Industries	D.C.
Bizler, Roy Russell, Jr.	Md.	Hively, Edward Lee	D.C.
A.B. 1947, Bridgewater College		B.S. 1944, University of Florida	N.Y.
Clark, William Carl	Tenn.	Kirshner, Janet Segal	Tex.
B.S. 1936, Cumberland University		A.B. 1945, The George Washington University	
LL.B. 1943, The George Washington University		Klein, Percy Franklyn, Jr.	
Daugherty, Charles Raymond Cotton II	Minn.	A.B. 1938, Park College	
A.B. 1944, The George Washington University		Matthews, Charles Donald	
Dehn, Ervin Noble	Ill.	A.B. 1948, The George Washington University	
A.B. 1947, The George Washington University		Rodriguez, Luis Octavio	Puerto Rico
Edmonds, Donald Charles	D.C.	A.B. 1941, The George Washington University	Wa.
B.S. 1936, Purdue University		Rotnem, Eugene Orbeck	R.I.
Ewy, Constance Margdalene	Minn.	A.B. 1947, University of Hawaii	
A.B. 1941, The George Washington University		Rottenberg, Jacob Bear	
Fudge, Russell Oliver	Tex.	A.B. 1942, The George Washington University	
B.J. 1933, University of Missouri			

Degrees Conferred

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Steele, Ira Ernest B.B.A. 1939, Texas Technological College	Tex.	Thacker, Edward Harvey A.B. 1942, The George Washington University	Va.
Stolarski, C. Robert A.B. 1948, The George Washington University	Pa.	T'o, Kuo-Chu B.S. 1943, National Central University of China	China
Stowell, John J. A.B. 1938, Syracuse University LL.B. 1946, Harvard University	N.Y.	Zentgraf, Edward August B.S. 1937, New York University	Md.

DOCTOR OF PHILOSOPHY

FEBRUARY 22, 1949

Coker, Joseph Daniel A.B. 1915, A.M. 1937, The George Washington University Dissertation: "Economics of Strategic Target Selection"	S.C.	Mills, Mary Barbara B.S. 1940, University of Pittsburgh M.S. 1941, The George Washington University Dissertation: "A Study of Some Chemical Interrelationships of As- corbic Acid, Dehydroascorbic Acid, and Diketogulonic Acid, With a Method for Their Determination in Plant and Animal Tissue"	D.C.
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JUNE 1, 1949

Alexander, Mary Mitchell B.S. 1919, Oklahoma Agricultural and Mechanical College M.S. 1945, University of Michigan Dissertation: "The Immune Response of Man to <i>Pasteurella tularensis</i> "	Md.	Pecora, Louis Joseph B.S. 1933, Tufts College Dissertation: "Electrocardiographic Changes in Rats on Thiamine Deficient Diets"	Md.
Crosby, Kenneth Ward B.S. 1939, Wilmington College A.M. 1940, Haverford College Dissertation: "The Diplomacy of the United States in Relation to the War of the Pacific, 1870-1884"	Ohio		

RECIPIENTS OF AWARDS

SCHOLARSHIPS

1948-49

- The American Foundation for Pharmaceutical Education Scholarship:* Arvilla Keller
- The Byron Andrews Scholarships:* Beverly Mae Barrett, Ann Courtright, Ann Pasternack
- The Emma K. Carr Scholarships:* Solomon Efrem Barr, David Stanley Davis, Judah Greensaid, Manuel Louis Helzner, Wayne Thompson Jacob, Howard Hamilton Johnson, Jr., Charles Ernest Lilien, Henry Raden, Richard Gordon Scott, Orie Seltzer, Julian Howard Singman, James Alexander Sinsabaugh, Howard Victor Stambler, Jerome Stanley Wagshal, Farrell Roy Werbow, Joseph Jay Wolf
- The Columbian Women Scholarships:* Marsha Boetler, A.B., Norma Doris Evenson, Carol Mazatoff Fineblum, Mary Cecelia Griffiths, Elaine Mildred Langerman, Phyllis Sheppy, Peggy Jane Watkins, Joyce Marguerite Wilson
- The Henry Harding Carter Scholarship:* Thomas Edward Mutchler, Jr.
- The Maria M. Carter Scholarship:* Adolphe Charles Kiezales
- The Isaac Davis Scholarship:* Iris Mildred Bishop
- The Robert Farnham Scholarship:* Jane Elizabeth Shanks
- The Elma Lewis Harvey Scholarship:* Doris Nahn
- The High School Scholarships:* Marion Baker, Raymond Lowell Bancroft, Virginia Lee Bangs, Jules Isaac Cahon, Jeanne Audrey Cleary, John Hamilton Connaughton, Jr., Michael Anthony Corrado, Jean Nelson Edger, Patricia Joanne Fenton, James Evans Foreum, Meredith Gallup, Paul Weatherly Garrett, Lou Ann Hall, Jean Doris Hartley, Marjorie Ann Hill, Edmund Crump Hughes, Edward William Hutnir, Joanne Stratford Hyde, Gladys Elizabeth James, Elise Hill Johnson, Donald Swift Kellam, Jr., Mary Beth Koenig, Ellen Ruth Krauss, Betty Jane Leaptrot, Dorothy Lee, Albert Lawrence Lloyd, Jr., Mary Olga Longley, John Albert Lytle, John Wallace McNeel, Marian Clymer Nowland, Elizabeth Ann Paisley, Stavros Steve Pappas, Roger Carson Price, Patricia Anne Saunders, Elizabeth Anne Sheppard, Barbara Anne Simms, Morton Lee Spiegel, Nancy Reynolds Stevens, James Logan Stith, Harry Homer Thayer, Arnold Martin Toxen, Peter Van Allen, James Kermit Van Slyke, Edith Rita Venezky, Josephine Ann Walsh, Janet Wildman
- The High School Discussion Conference Scholarships:* Helen Mead Caffey, William Mac Jeffries, Betty Lucile Russell
- The Newspaper Scholarships:*
Evening Star: Frederick Adolph deLuna, Bernard Arthur Goodrich
Washington Post: John Russell Wiggins, Frank Jones Woodard
- The Lula M. Shepard Scholarship:* Jan Lloyd Lawson
- The David Spencer Scholarship:* Virginia Anne Myers
- The Mary Lowell Stone Scholarships:* Patricia Ann Ludwig
- The Student Activities Scholarships:* Raymond Harold Adler, Robert Thomas Allwine, Henry John Bartelloni, Leonard Baurath, Clarence Edwin Beeraft, Joseph John Bernot, Frederick Laurence Block, Thomas Constantinus Bosmans, Joseph Whitman Buell, Stanley Burak, Charles Edward Butler, William James Cantwell, Frank Nicholas Cavallo, Arthur Joseph Cerra, Louis Ciarrocca, Jr., Bob Frank Cilento, Bernard Francis Citrenbaum, Franklin John Close, Roger Charles Cole, Frank Edward Continetti, Peter Paul Cordelli, Andrew Nathan

Davis, Jr., Louis Benjamin DeAngelis, Howard Carl Deiderich, Clarence Prowell Drayer, Talbot William Dredge, Donald James Druckenmiller, Albert Morris DuGoff, Robert Lawrence Edenbaum, Robert Joseph Fabian, Jr., Julius Anthony Famulatte, James Francis Fennell, James Joseph Feula, Edward James Fitzpatrick, Richard Howard Freed, Henry Waldo Goggin, Eugene Gould, James Cecil Gray, John Robert Grinnell, Charles Anthony Gunner, Maynard Kitchen Haightcock, David Mitchell Howell, James Walter Johnson, Charles Clifford Jones, Fotis Nickolas Karousatos, Arthur Wallace Kennedy, Joseph Gerard Kennelly, James Frederick Kline, Richard Eugene Koester, Arodis Vahan Kojoyian, Garo Krikorian, Clarence Elliott Kuidell, Paul Malane, Walter Whitman Mathieson, Jr., Philip Aloysius McNiff, Doyle Nate Miller, Samuel John Moffatt, Bernard Nathan, Eric Gregg Nordholm, Harold Franklin Nurtmann, Robert Leslie Parkinson, Chester Joseph Pictas, James Andrew Regan, Thomas Rielly, Frederick Clarence Samuelson, Kenneth Robert Samuelson, Sam Schreiber, John Sestokas, David Shapiro, William Miller Shaw, Alan Edward Sherr, Harvey Andrew Shipman, David Hawley Shiver, John Albert Shullenbarger, Leonard Small, Richard Henry Smith, Leonard William Spangler, Joseph Michael Stanislawczyk, William Leo Sanyal, John Thomas Tivnan, George Walley, Jr., Denra Wallace Warner, Jr., Eugene Witkin, John Joseph Yednock

The Trustee Scholarship: William Gordon Roberts
The John Withington Scholarship: Jane Elizabeth Shanks
The Ellen Woodhull Scholarship: Dorothy Jean Schram

PRIZES

1948-49

Alpha Chi Sigma Freshman Awards in Chemistry: Arnold Martin Toxen, Ralph Bennett Neal, Robert Dunham Sly
Alpha Chi Sigma Senior Award in Chemistry: LeGrand Gerard Van Uitert
Alpha Delta Pi Award to that woman member of the junior class with the most outstanding record in scholarship, extra-curricular activities, and service to the University: Mildred Ann McDowell
Alpha Kappa Psi Award in Commerce: Edmund Theodore Baxa
American Institute of Chemists Award in Chemistry: Earl Reddish Yowell
Byrne Thurtell Burns Memorial Award in Organic Chemistry: LeGrand Gerard Van Uitert
Chi Omega Award in Social Sciences: Vonette Bogan Locraft
Colonial Dames Award for an essay on Colonial History: Joyce Marguerite Wilson
John Henry Cowles Awards in Government: Leonard Wainstein, William Charles Keller
Dewitt Clinton Croissant Award for an essay on drama or the theater: William Winsor Sherwin
E. K. Cutter Award in English: Benjamin Haile DeMott
Daughters of the American Revolution Award for an essay on American history during the Period of the American Revolution: Herschel Hancock Helm
Isaac Davis Awards in Public Speaking: Henry Charles Krebs, Earl William Borchering, Ann Pasternack
Delta Gamma Award to that woman member of the graduating class with the highest scholastic standing: Evelyn Smalling Davis
Delta Zeta Award in Botany: William Everett Maloney
Ellsworth Award in Patent Law: Charles Lloyd Good
Elton Award in Greek: Doris Nahm
Jesse Frederick Essay Award to that student who has given promise of sound

- citizenship and ability in "forthright reporting" in student publication: Peter John Martin
- Joshua Evans III Memorial Award* to that man in the graduating class who has demonstrated his signal ability in the social and political sciences and who has given promise of the interpretation of that ability in good citizenship among his fellows: Robert Lee Burns
- Willie E. Fitch Award in Chemistry*: LeGrand Gerard Van Uitert
- Alice Douglas Goddard Award in American Literature*: Harvey Nelson Fitton
- Edward Carrington Goddard Award in French*: James Cecil King
- James Douglas Goddard Award in Pharmacy*: Charles Randolph Wolfe
- Morgan Richardson Goddard Award in Commerce*: Richard Paul DeCamara
- Gardiner C. Hubbard Memorial Award in United States History*: Doris Morgan Olszewski
- Kappa Kappa Gamma Award in Botany*: Paul Erich Bulow, Jr.
- John Bell Lerner Award* to that member of the graduating class of the Law School with the highest scholastic standing: William Fred Iyer
- Mortar Board Award* to that woman student in the Sophomore Class having a scholastic standing of B or higher and the most outstanding record in activities: Edith Rita Venezsky
- Omicron Delta Kappa Award* to that member of the Senior Class who, throughout his course, has done the most constructive work in student activities: William Claflin Warner
- John Ordronaux Award* to that member of the graduating class of the School of Medicine with the highest scholastic standing: Leighton Eggertsen Cluff
- Phi Eta Sigma Award* to the beginning male student attaining the highest scholastic average in his first full term of work: Richard Langford Peppers, Arnold Martin Toxen
- Phi Sigma Kappa Award* to the winner in a freshman oratorical contest: John Sestokas
- Pi Beta Phi Award* to that woman member of the Senior Class who, throughout her course, has done the most to promote student activities: Elizabeth Ann Paisley
- Ruggles Award in Mathematics*: Russell Martin Brown
- Sigma Kappa Award in Chemistry*: Arnold Martin Toxen
- James McBride Sterrett, Jr., Award in Physics*: Myron Bernard Zinn
- United Daughters of the Confederacy Award in history of the Southern States*: Charles Frederick Campbell
- Alexander Wilbourne Weddell Award for an essay on World Peace*: Jack Linwood Kenner

STUDENT ASSISTANTS

JUNE 1, 1948 TO JUNE 1, 1949

- Art*: Elizabeth Anne Kline, Mary Elizabeth McTighe, Frances Spruce.
- Biochemistry*: Jerome Harold Epstein, M.S.
- Biology*: Edward Charles Connelly, Thomas de Kornfeld, B.S., James Leon Gargus, Marvin Irving Gottlieb, Stanley Morten Kurtz, Mary Olga Longley, Thomas William McKinley, John Clark Uehlinger, Emily Frances Upton.
- Botany*: Martin George Blechman, Gabriel Edwin, David Goldberg, Daniel William Lineham, George Albert Marlowe, Jr., LaVerne Sayre Miller, Evelyn Kuntz O'Brian, William Allen Penn, Velva Rudd, M.S.
- Business Administration*: Harry Arthur Abramowitz, Harold Ralph Berson, Bernard Borrus, William Pryor Bushmiera, Seymour Defrin, Jene Leonard

- Dempsey, Fred Philip Freed, Seymour Goldberg, James John Joseph Kelley, Richard Lee Matson, Sheldon Allen Noble, Robert Delos Presler, Clarence Rexroth, Albert Sirmat, John Stowell, Howard Eanes Warren, Benjamin Wostein
- Chemistry:* Leonard Berkowitz, Russell Carl Grunsten, Ennis Cecil Layne, Jr., Wilbert Joseph Robertson, Parkhurst Alan Shore, Nancy Tucker, LeGrande Gerard Van Uiter, Earl Reddish Yowell
- Civil Engineering:* Charles Andrew Appel III, Glen Handy Ballowe, Ivan Francis Bell, Forrest Horatio Bell, Harold Brown, Walter Harvey Cole, Jr., Gail Walden Crossen, Jr., Donald Vernoy Davis, John Glessner, Burr Latta, Lusadel Moore, Everett O'Brien, John Reidelbach, Lawrence Schneider, B.S., Robert Schwob, Charlotte Shepard, Clara Spain, William Robert Sutherland, William Walker
- Economics:* James Malone Bell, A.B., Gordon Bradford, Gerti Brunner, A.B., Robert Lee Burns, Victor Charles Campo, Charles Ellwood Cowell, Jr., Frederick Donovan Crews, Lilla Cummings, Paul Gekker, A.B., Tommy Coble Ishee, A.B., Stanley Zenon Klukowski, A.B., Louis Koutoulakos, Harold Thomas Lamar, A.B., Charles Donald Matthews, A.B., Ralph Jack McGuire, A.B., Stuart David Nelson, A.B., Hugh Stanton Norton, A.B., Eugene Michael Picciana, A.B., Floyd Reeves, A.B., Suzanne Virginia Richards, A.B., Victoria Simmons, A.B., Irving Taylor, Douglas Price Weaver, A.B., Donald Earl Young
- Education:* Harold Maurice Wilson, Juanita Murrow, A.M.
- Electrical Engineering:* Francis Gerard Browning, Matthew Flato, Perry Joseph Jecko, Arthur Machlin, Reid Dennis Mayo, Mary Lou Thompson, Robert Edward Winter, Frederick Hugh Battle
- English:* Claire Jennings, Donald Fred Kaiser, Philip Harold Klepak, Jeanne LeFevre
- Geography:* James Bruce Johnstone, James Cornelius VanStory, A.B., Harland Westermann
- History:* John Porter Bloom, A.B., Marian Taylor Cummins, Raymond David Fellers, Rhoda Freeman, Robert Scott Harrison, Raymond LeRoy Hays, Herschel Helm, Jr., Joseph Howerton, John Erwin MacNab, Carrington Belt McGraw, Cornelia Gillespie Miller, Elizabeth Miller, A.B., Marian Cary Morris
- Journalism:* Elvera Pfister
- Mathematics:* Russell Martin Brown, James Micael McLynn, Paul Shapiro, Joseph Jay Wolf
- Mechanical Engineering:* Merritt Downing, Raymond Wright Juncal, Charles William Neuhauser, Albert David Tinkelenberg
- Pharmacy:* Wilson Kress Bressler, Russell Kuhner Hollingsworth, Jr., Clyde George Johnson, Warren Louis Johnson, Arvilla Keller, Robert Eugene Pickett
- Philosophy:* Louise Munthe Cappeian, Sally Chew Dessez, Janet Glisson, Bernat George Hammel, Barbara Irene Salomon, A.B.
- Physical Education for Men:* Allen Evry, Charles Anthony Gunner, Ailsa Jones, William Robert Kearney, Arthur Wallace Kennedy, Philip King, Frank Kley, Gustave David Militzer, Julian Stein, Bruno John Zembrzanski
- Physics:* George Richmond Burnham, George Arthur Craig, Robert Franklin Custard, John Ogilvy Duncan, Samuel Graham Hamilton, Harry Krewson Mannond III, B.S. in Eng., William Robert Harwood, Clarence Julian Owens, William Donald Roberson, William Whittemore
- Political Science:* Robert Melvin Adams, David Barson, Thomas Wynn Carroll, Ming Chen, Elizabeth Trucks Cole, John James Cound, Samuel Cummings, Richard Channing Harmstone, Gerald Peter Holmes, Herbert Wendell Hundley, Joseph Brown Jackson, Jr., Irving Jaffe, A.B., Jan Lawson, Joan Mamoto.

- Juell Ness, Eugene Orbeck Rotnem, A.B., Joan Lorey Ryan, A.B., Jerome Washal, Leonard Wainstein, Ray Wojtkowiak, Nancy Hanc Woodward
- Psychology*: Beverley Batley, Doris Blaudena Brown, Kathryn Burchard, Catherine Dailey, Albert Frederick Dudley, John Phillip Floyd, Abraham Melvin Gold, Edward Allen Greene, Christopher William Kyriazis, A.B., Marilyn Rosalyn Marinoff, Betty Price, Laura Shapiro, Edward Sirhens, Louise Whiting, Virginia Wilson, A.B., Dwight Geer Worden
- Romance Languages*: Barbara Dilli Kelly, Patricia Morann
- Secretarial Studies*: Martha Elizabeth Bausell, Patricia Ann Smith
- Sociology*: Frederick LeRoy Bates, Marion Epstein
- Speech*: Stanley Louis Berlinsky, Nellie Walker Brooks, Isadore Isaac, James Francis Kavanagh, Joseph Alvin Simmons
- Statistics*: James Frederick Bird, Charles Franklin Crichton, Meyer Dwass, Margaret Helen Fox, Sidney Kellman, William Josselyn Lawless, Jr., George Linden, Kenneth William Webb, A.B.
- Zoology*: Charles Emmet Ball, Jo Anne Marilyn Buss, Mildred Ann Campbell, Harry Carlton, Ann Courtright, Frances Louise Demos, Elgin Adams Dunnington, Jr., Mary Clair Fournmonti, Forest Claire Harris, Jr., Francis Joseph Hatch, Richard Henry Hedger, Rita Kaden, Adolphe Charles Kiezas, Francis Lincoln Lambert, Betty Lou Mann, Donald Keith McLoughlin, B.S., Seymour Olshin, Annette Riggs, Johannes Lorenzo Scheltema, Rudolf Siegfried Scheltema

STUDENTS REGISTERED IN THE GEORGE WASHINGTON UNIVERSITY 1948-49

A			
Aarons, Isadore Alfred		Adair, James Reid	Va.
B.S. 1933, University of Chicago	Gu.	Adams, Alton George	Md.
Aaronson, Charles Martin	D.C.	Adams, Amy Belle	Maine
Abadjis, Andreas P.	Greece	A.B. 1927, A.M. 1931, University	
Abbe, Janet Louise	Mich.	of Maine	Fla.
Abbott, Donald Lockhart	Tex.	Adams, Edith Meriwether	D.C.
Abbott, Robert Tucker	Va.	Adams, Edward Paul	S.C.
B.S. 1946, Harvard University		Adams, Emily Lou	
Abdoh, Mehdi	D.C.	A.B. 1943, Wentthrop College	D.C.
Abdon, Zenio Jose	Brazil	Adams, Frederick Fowler	W.Va.
Abel, Edward	Mass.	Adams, James Rowland	D.C.
Abel, Howard Bernal, Jr.	Pa.	Adams, Jane Marie	M.I.
Abel, Leonard Leon	D.C.	Adams, Jay Henry, Jr.	N.Y.
Abellon, Esther Marina	Cuba	Adams, Josephine Mary	Va.
Abelman, Anna Lee	D.C.	Adams, Margaret Anne	D.C.
Abelman, Neil Hyman	D.C.	Adams, Mary Kathryn	Ind.
Abelson, Allan Joseph	Md.	Adams, Phyllis Virginia	D.C.
B.S. 1949, Temple University		Adams, Richard Hugh	Va.
Abendschein, Mary-Jane	Va.	Adams, Robert Louis	D.C.
Aber, Selma Thelma	N.Y.	Adams, Robert Melvin	Va.
Aberant, Thomas Roman	Pa.	Adams, Robert Nelson	N.I.
A.B. 1947, The George Washington		Adams, Robert Thompson	Md.
University		Adams, William Braden	D.C.
Abers, Robert Leonard	D.C.	Adams, George Quentin	
Aberg, William Arvid, Jr.	D.C.	B.S. 1935, Iowa State Teachers	
Abenathy, Winston Sterling	D.C.	College	Kans.
B.S. 1945, United States Naval		Adams, Keith Earl	D.C.
Academy		Adams, Francis Gonsult	
Abio, George	D.C.	B.S. 1947, Washington and Lee	
Abney, Archie Lowell	Ill.	University	Md.
Abraham, Abe Samuel	Md.	Adelberger, Emily Virginia	N.Y.
B.S. 1938, Westminster College		Adelson, Morton Jackson	Mass.
Abraham, George William	D.C.	Adelson, Norman Persting	
Abrahamian, Viola Virginia	N.I.	B.S. 1941, University of Alabama	Tex.
Abraham, William Henry	D.C.	Asterhold, Leon Wyatt	Va.
Abrahamson, Joseph Labe	Va.	Adams, Hobson Lee	Ill.
Abramowitz, Charles	N.Y.	Adams, Kathryn Eloise	
A.B. 1948, The George Washington		A.B. 1937, University of Illinois	N.J.
University		Adler, Howard Henry	Va.
Abramowitz, Harry Arthur	N.I.	Adler, Irving	
Abrams, Edwin Fred	D.C.	B.S. 1919, New York University	D.C.
Abrams, G. Doris	N.Y.	Adler, Lee Elliott	D.C.
B.S. 1941, Queens College		Adler, Raymond Harold	Ill.
Abrams, Isaac Nathan	D.C.	Adkinson, Roy Edward	D.C.
Abrams, Israel Jacob	D.C.	Adrian, Alexander Corban	
Abrams, Jehuda Hillel	D.C.	B.S. 1948, Wilson Teachers College	D.C.
Abrams, Sheldon David	D.C.	Adrian, Donald Keith	Md.
Abrams, Sidney Charles	D.C.	Ady, John Hamilton	Conn.
Abramson, Aaron	N.Y.	Anasoff, Theodore Daniel	D.C.
Abramson, Adele	D.C.	Ager, Harry King	D.C.
Abramson, Milton	N.Y.	Ager, John Albert	Ill.
B.B.A. 1942, College of the City		Agersborg, James Albert	D.C.
of New York		Agner, Robert Lee	Va.
Abreo, Nancy Lee	D.C.	Agnew, Anna Agnes	
Abriel-Lamarque, Milagros	D.C.	B.S. 1929, Radford State Teachers	
Abushady, Safeya	D.C.	College	Mexico
Accardo, Pasquale Louis, Jr.	R.I.	Aguiar, Sally Ann	D.C.
Accorico, Russell Anthony	Ohio	Agulnick, Carolyn	Pa.
Ackerly, Robert Louis	N.Y.	Agusiewicz, Henry Anthony	
Ackiss, Ernest Lee	D.C.	B.S. 1947, The George Washington	
Aquist, Nicolo	N.Y.	University	D.C.
A.B. 1942, College of the City of		Ahari, Hassan	Ill.
New York		Ahlfield, George Samuel	Iowa
		Ahmann, Mary Elizabeth	

Aidenoff, Abraham	Ill.	Algire, Kent Duval	D.C.
A.B. 1934, University of Chicago		A.B. 1938, LL.B. 1939, The George Washington University	
Aiken, Bernard	Md.	Alhimmok, Daniel	Md.
Aiken, John H.	D.C.	Allan, Halle Charles, Jr.	Va.
Aiken, Sarah Elizabeth	D.C.	Alldridge, Alfred Robert	Pa.
A.B. 1947, University of North Carolina		Allebach, Arlene	D.C.
Aiken, William David	Va.	Allegri, Theodore Henry	N.Y.
Aikman, Edward	D.C.	A.B. 1947, The George Washington University	
Ailes, Curtis	Va.	Alleman, Hubert Charles	La.
B.E.E. 1941, Ohio State University		A.B. 1939, West Virginia University	
Ainley, James Edward, Jr.	Md.	Allen, Alice Edwina	Maine
Aires, Francis LeRoy	D.C.	Allen, Alice Griefes	Pa.
B.S. in B.A. 1949, Georgetown University		Allen, Carrie Davis	N.J.
Akey, Cecile Hikel	D.C.	Allen, Denver Irving	D.C.
Aksomaitis, Casimir Joseph	Conn.	B.S. 1938, Ph.D. 1943, University of Missouri	
Aksomaitis, Mary Ann	Va.	Allen, Donald Vail	Ill.
Aklilima, Vaiao John	Samoa Is.	Allen, Eileen Denney	Va.
Alamo, Juan Rodriguez	D.C.	A.B. 1938, University of Maryland	
Alawine, Alton Jackson	Miss.	Allen, Howard Benson	D.C.
Alba, Carmelo Vincent	D.C.	Allen, Jacqueline	Md.
A.B. 1940, University of Wisconsin		Allen, James Victor	Tenn.
A.M. 1946, Columbia University		B.B.A. 1947, Texas Technological College	
Albamonte, Eugene	D.C.	Allen, Jane Grace	Va.
Alban, Paul Henry	Md.	Allen, Jere Mullen	Pa.
Albaugh, Helen Elizabeth	Pa.	Allen, John Bolling	D.C.
Albers, Patricia	D.C.	Allen, John Joseph	Md.
A.B. 1948, The George Washington University		Allen, John Michael	N.Y.
Albert, Sterling Hartwell	Va.	Allen, Jonathan Harvey	Tenn.
Albertson, Arthur Grant	Utah	Allen, Mabel Randolph	Va.
Albertson, Virginia Anne	Md.	A.B. 1934, University of Richmond	
A.B. 1948, Mary Baldwin College		A.M. 1940, The George Washington University	
Albrecht, Raymond Frank	Va.	Allen, Martha DeGroat	Idaho
Albrecht, Violet Zulma	West Indies	B.S. in Ed. 1917, M.S. in Ed. 1943	
Albright, Frank Glenn	W.Va.	University of Idaho	
Albright, Penrose Lucas	Kans.	Allen, Nancy Keon	D.C.
B.S. 1946, United States Merchant Marine Academy		A.B. 1948, University of Southern California	
Alde, Robert	Va.	Allen, Nancy Leigh	D.C.
Aldea, José Marvel	Puerto Rico	Allen, Patricia Elizabeth	D.C.
Alden, Ruth	Va.	Allen, Reginald Alfred	N.J.
A.B. 1943, Witwatersrand University, Johannesburg, South Africa		Allen, Reginald Nelson	D.C.
Alderson, Richard Easterly	Va.	Allen, Richard Hiram	D.C.
Alderson, Wilbur Stanley	Va.	Allen, Rose Marie	D.C.
Aldhizer, Carthon Evans	N.C.	A.B. 1947, McGill University	Va.
Aldridge, George Martin	D.C.	Allen, Sylvia Dunnivant	
Alduk, Thomas Joseph	Pa.	B.S. 1940, Farmville State Teachers College, Va.	Ala.
Alexander, Francis DeSales	D.C.	Allen, Theodore S.	D.C.
Alexander, Harold Bell	Tex.	Allen, Thomas Howard	Kans.
Alexander, Marion Thomas	D.C.	Allen, Thomas Keith	D.C.
Alexander, Mary Mitchell	Md.	Allen, Waitman Triplett	Va.
B.S. 1910, Oklahoma Agricultural and Mechanical College		Allen, Walter Gordon	
Alexander, Norval Don	D.C.	B.S. 1945, United States Military Academy	
Alexander, Ronald McKenzie	D.C.	Allen, William Toliver	Va.
B.S. 1941, Southeastern University		Allender, Thomas	D.C.
Alexander, Roy L., Jr.	N.J.	Allen, Victor	
A.B. 1948, Duke University		A.B. 1930, The George Washington University	N.C.
Alexander, Roy Malcolm	Pa.	Alley, Edith	
LL.B. 1941, National University		B.S. 1938, Western Carolina Teachers College	Md.
Alexiou, Louis	N.Y.	Allgood, Frank Maybee, Jr.	Md.
Alexis, Everett Crispin	D.C.	Allinger, Dorothy Ann	W.Va.
Alfonso, Tagle Manuel	Cuba	Allison, Helen Maria	Md.
Alford, Patricia T.	D.C.	Allison, Horatio	D.C.
A.B. 1948, The George Washington University		Allison, Joan	
Alger, Ann Elizabeth	Fla.		
Alger, Shirley Ann	Va.		

Allison, Joseph Peter	N.Y.	Andersen, Leora Ivadel	D.C.
Allison, LeRoy Montgomery	D.C.	A.B. 1938, Iowa State Teachers College	
Allison, Mary Ellen	D.C.	Anderson, Stephen Foss, Jr.	D.C.
Allison, William	Va.	Anderson, Alfred Vincent	D.C.
Allison, William Butterworth		Anderson, Alvin Leonard	Minn.
A.B. 1940, Gettysburg College		Anderson, B.S. 1934, State College, Fargo, N. D.	D.C.
Allman, William Dominic	D.C.	Anderson, Angelne Elizabeth	D.C.
Allnutt, Benjamin White	Md.	Anderson, Beverly Charlotte	Mass.
A.B. 1941, Western Maryland College		Anderson, Bowman Cowne	Va.
Allnutt, Ralph Bogley	D.C.	A.B. 1936, The George Washington University	
Allhouse, Jeanne Ella	Ill.	Anderson, Carl Robert	Pa.
Allwine, Robert Thomas	D.C.	Anderson, Carl William	Mass.
Almeida, Virgil Antunes	N.Y.	A.B. 1937, University of Vermont	
Almy, Dean Johnson, Jr.	Md.	Anderson, Chester Marion	Md.
Almy, Donald Comstock	R.I.	Anderson, Donald James	Pa.
Almy, Helen	Md.	Anderson, Francis William	Ill.
Alpar, Jacob	D.C.	B.S. 1936, University of Illinois	
A.B. 1947, The George Washington University		Anderson, G. Ross, Jr.	S.C.
Alper, Carolyn Phyllis	D.C.	Anderson, George Thomas	D.C.
Alterman, Toby T.	Va.	Anderson, Geraldine Elizabeth	D.C.
Altieri, John Lambert	N.Y.	Anderson, Harvey Henderson	S.C.
Altizer, Betty Jo	Va.	B.S. 1941, The Citadel	
Altman, Coleman Parker	D.C.	Anderson, Helen Margaret	Md.
Altman, Gerald	Mass.	Anderson, Helen Pritchard	Va.
B.S. 1943, LL.B. 1949, Boston University		Anderson, Henry Clay	Va.
Altman, Pauline D.	D.C.	Anderson, Jane Pamela	
A.B. 1931, Hunter College		A.B. 1945, Lawrence College	
Altman, Seymour S.	N.Y.	Anderson, John George	N.Y.
B.E.E. 1944, College of the City of New York		Anderson, John Victor	D.C.
Altman, Sol	N.Y.	Anderson, Kenneth Arthur	Ill.
Altman, Andrew Taylor	D.C.	Anderson, Loretta May	D.C.
B.S. 1941, University of Maryland		Anderson, Martin	D.C.
Altmore, Herbert Daniel	D.C.	Anderson, Maude Burr	Md.
Alton, Sidney Guy	D.C.	Anderson, Nancy	D.C.
Altshuler, Eugene	N.I.	Anderson, Nellie Carr	D.C.
Altshuler, Norman	Conn.	A.B. 1943, The George Washington University	
Altshuler, Oscar	N.Y.	Anderson, Nora Agnes	D.C.
Alverez, Belarmino Garcia	Puerto Rico	Anderson, Olga Roy	Okla.
Alvey, Ernest Brandon	Va.	Anderson, Robert Henry	Pa.
Alvig, Oscar Road	Va.	Anderson, Robert Leigh	Neb.
Alvord, Charles Hulbert	Va.	Anderson, Robert Reynolds, Jr.	Va.
Alvord, Clarissa	D.C.	B.S. 1933, University of Richmond	
Alvord, Marian	D.C.	Anderson, Wayne Russell	D.C.
Alwine, Edward Ambrose	Pa.	Anderson, William Abbott	D.C.
Amatsyakul, Ravi	Siam	Anderson, William Henry	Ill.
Amatsyakul, Tuang Ratana	Siam	Anderson, William Walter	Md.
Amato, John Ignatius	D.C.	Anderson, James William	Fla.
Ambery, Robert Warren	Md.	Andes, Paul Goway	Va.
Ambler, George Chester	Va.	Anders, Frank Samuel	N.Y.
B.S. 1940, The George Washington University		Andrews, Adeline Lovell	Mass.
Ament, Richard Penfield	Va.	Andrews, Alphone Michael	Mass.
A.B. 1942, Cornell University		Andrews, Anna Vaughan	Calif.
Ames, Elizabeth Morris	Va.	Andrews, Lee Austin	N.Y.
A.B. 1929, Randolph-Macon Woman's College		Andrews, Norman Jacob	Mass.
Ames, Katherine	Utah	Andrews, Robert Bruce	Iowa
Ames, Madge Elizabeth	Maine	Andrews, Robert Owen	R.I.
Amidon, Robert Horace	D.C.	A.B. 1946, The George Washington University	
Ammon, Milton Henry	Pa.	Andrich, Dan J.	Minn.
Ammon, William Bronley, Jr.	Md.	Angel, Grover LaMarr	N.C.
Amson, Mariana Beulah	D.C.	A.B. 1939, High Point College	
Amster, Morton	N.J.	A.M. 1946, The George Washington University	
B.S. in E.E. 1948, Rutgers University		Angel, Jerry Irwin	N.Y.
Anders, Fay Temple	Miss.	Angel, William Irby, Jr.	Va.
Anders, Frank Ward, Jr.	Md.	Angelaras, James George	D.C.
Anders, James Alfred	D.C.	Angello, Dolores Bea	D.C.
Anderson, Harold James	D.C.	Angelis, Edna	N.J.
		Angelo, Patricia Wilson	Va.

Ankeny, Eleanor Ann	D.C.	Arnald, Rosalie Bryant	D.C.
Ankers, John Edward	D.C.	Arndt, Willis LeRoy	D.C.
Angle, William Ward	Va.	Arnett, Maxie Mauk	Va.
Annas, Margaret Catherine	Pa.	A.B. in Ed. 1945, Morehead State Teachers College	
Annis, Helen Woodburn	D.C.	Arnn, Aubrey Allen	D.C.
Ansberry, Ruth Evalyn	Md.	Arnold, Jennie	Va.
A.B. 1930, Muskingum College		Arnold, Mary Ann	Va.
Ansher, Harold	N.Y.	Arnold, Richard Edmund	Va.
A.B. 1930, Brooklyn College		Arnos, Rose Mary	N.H.
Ansher, Norton	N.Y.	Aronson, Ellis Smiller	D.C.
Anstine, James Cole	D.C.	Aronson, Sylvan Bernard	D.C.
Antholis, Cleo	D.C.	Aronstein, Jennie Goodman	D.C.
Anthony, James Nicholas	S.C.	Arrick, Alma Arlene	Ohio
A.B. 1948, The Citadel		Arrovo, Francisco Hernandez	Tex.
Antkin, Stephen	N.J.	A.B. 1947, Hardin Simmons University	
B.S. 1947, Marietta College		Arsem, Collins	Md.
Anton, Alfred John	Va.	Arsham, Isabell	N.Y.
A.B. 1948, University of Missouri		A.B. 1937, Hunter College	Va.
Anton, Ruth Martha	Iowa	Arthur, Frank Melvin	N.J.
Antonelli, Francis Anthony	D.C.	Arthur, John Joseph	Va.
Antoniadis, Catherine Enphrosini	Greece	Arthur, Lester Maxwell, Jr.	Va.
Antoun, Edmond John	Pa.	Arthur, Raymond Lee	D.C.
Anzaldva, Fausto	Tex.	Arundell, Elizabeth	N.J.
Appar, Harry Emanuel	Va.	Arvanetes, John	Ind.
A.B. 1938, Lafayette College		Arvidson, Dorothy Ruth	
Appar, Herbert Leroy	D.C.	B.S. 1942, Purdue University	
Apodaca, Anacleto Garcia	D.C.	Asano, Paul Sachin	Utah
B.S. 1940, New Mexico Agricultural and Mechanical College		Ascherfeld, Theodore F.	Va.
App, Oliver Leo	Wis.	B.S. 1921, United States Naval Academy	
Appel, Charles Andrew	D.C.	M.S. 1918, University of California	D.C.
Applebaum, Anita Max	N.Y.	Asero, Angela Teresa	D.C.
Applebaum, Helene Joan	Md.	Asha, John Michael	D.C.
Appleby, Jackson Herbert	D.C.	Ashby, Helen E.	Va.
Appleby, James Scott		Ashby, Richard	
A.B. 1944, University of Arizona		A.B. 1936, University of Florida	
Applegate, John Curtis	Ohio	A.M. 1918, University of North Carolina	D.C.
Applestein, David	D.C.	Ashby, Wallace L.	
Arason, Jacob Peter	N.D.	A.B. 1947, The George Washington University	W.Va.
Araujo-Vidal Juan	Puerto Rico	Ashcraft, Dornsthea Lee	Ala.
B.S. 1940, University of Puerto Rico		Ashcraft, Thomas	
Arch, Edward Kenneth	Pa.	B.S. 1928, United States Naval Academy	D.C.
Archangel, Olivia M.	Pa.	Ashdown, Katherine Jean	D.C.
Archer, Crit Alexander	Minn.	Ash, Ray Lester	Fla.
Arena, Jennie Carol	D.C.	Asher, Cleona	Va.
Artman, Herbert Edward	Ohio	Ashford, Robert Sidney	Va.
Arguello, Newton	Brazil	A.B. 1948, Princeton University	
Aria, Michael Joseph	N.J.	Ashley, Paul Haskell	Mass.
B.S. 1948, St. Peter's College		A.B. 1916, King College	
Arias, Robert Anthony	Puerto Rico	Ashley, Robert David	N.Y.
Arias, Sidney Edgar	D.C.	LL.B. 1948, Boston University	Va.
Arkoian, Garabad	D.C.	Asin, Hy	
Arlotto, Russel Anthony	N.Y.	Ashmore, Charles DeLoach	D.C.
Armbrust, Bernard Flynn, Jr.	Ark.	A.B. 1918, Harvard University	Kent.
Armbruster, Francis Edward	Pa.	Ashton, Henry George	Ill.
A.B. 1948, The George Washington University		Ashton, Patricia Sue	
Armbruster, Ralph Edward	Va.	Asworth, George Clarke	
Armbruster, Ruth Jane	N.Y.	B.S. 1929, Illinois Institute of Technology	Md.
Armenaka, Rita Emanuel	Greece	Askew, William Robert	D.C.
Armenakas, Anthony Emanuel	Greece	Asowitch, S. Gertrude	Va.
Armiger, Louis Earl	Md.	Atchison, Joseph Love	D.C.
Armistead, Mary Ann	D.C.	Athanassiades, John Constant	D.C.
Armora, Jack E.	N.Y.	Atkin, Greta Ruth	Conn.
B.S. 1936, Brooklyn College		Atkins, Griswold Terry	
Armstrong, Barbara Jean	Va.	Athins, John Dillard, Jr.	
Armstrong, Dickie F.	Va.	B.S. 1940, North Carolina State College	
Armstrong, Warren L.	Pa.		
A.B. 1944, Thiel College			
Arn, Lauren Arden	Ohio		
A.B., LL.B. 1940, Ohio State University			

Atkins, Thomas Richard	Va.	Ayers, Jane Elizabeth	Ill.
Atkinson, Charles Fred	Ohio	A.B. 1945, The George Washington University	
A.B. 1948, The George Washington University		Ayers, Theodore Aley	Va.
Atkinson, Ethel Kathleen	Ohio	A.B. 1941, University of Virginia	Pa.
B.S. 1928, Carnegie Institute of Technology		Ayers, William Glenn	Md.
A.M. 1940, Western Reserve University		Aylward, John Daniel	Va.
Atkinson, Gerald Vernon	Colo.	Ayres, Sue Frances	
B.S. in P.E. 1948, Colorado School of Mines		B.S. 1931, Madison College	
Atkinson, Roderick Dhu	Va.	A.M. 1935, Columbia University	Maine
Atkinson, Ruth Elisabeth	D.C.	Aylward, Patricia Eileen	D.C.
Atkinson, Wade Hampton	D.C.	Aynes, Edith Annette	
Attanan, Chinda	D.C.		
Atlas, Betty Ann	D.C.	B	
Atwell, Horace Leroy	D.C.	Babb, Eugene Campbell	Va.
Atwood, Arthur William	Okla.	Babcock, Margaret Shippen	D.C.
Aube, Grace Elizabeth	N.Y.	Baber, James Clyde	Ark.
Aubert, Eugene James	N.J.	Bacchus, Annez	British Guiana
B.S. 1946, M.S. 1947, New York University		B.S. 1947, Howard University	British Guiana
Auer, Frederick John	D.C.	Bacchus, Habeeb	
LL.B. 1942, Southeastern University		B.S. 1947, Howard University	
August, Frank Joseph	D.C.	M.S. 1948, The George Washington University	
B.S. 1943, A.M. 1947, The George Washington University		Bach, Charles Edward	Wis.
Ault, John Miller	D.C.	Bach, Emily Frances	N.Y.
A.B. 1948, The George Washington University		Bachman, Helen	Va.
Auriti, Anthony Augustine	D.C.	Bachschmid, William Blair	Md.
Austin, Carroll Wayne	N.C.	Bacon, James Everett, Jr.	Md.
Austin, Dean Merlo	Idaho	Bacon, John George	N.M.
Austin, Mildred Chandler	D.C.	B.S. in F.S. 1949, Georgetown University	
Austin, Ralph Raymond	D.C.	Badanes, William Louis	Va.
Austin, Robert Kenneth	D.C.	Baden, Francis DeSales	D.C.
Austin, Rodney Elmer	Md.	Bader, Michael Haley	Calif.
A.B. 1948, Western Maryland College		Badger, Donald Gibson	Australia
Austin, Roland M.	D.C.	B.S. University of Adelaide, S. Australia	
Austin, Thomas Edwin	D.C.	Badger, Thomas Jenkins	Va.
Auten, Howard Leonidas	Md.	Baechtel, Andrew Robert	Pa.
Auten, Robert Sholey	Md.	B.S. 1944, Grove City College	
B.E.E. 1940, LL.B. 1948, University of Minnesota		Baer, Daniel Robert	D.C.
Autio, Ila M.	Va.	Baer, Joseph Rea	Md.
Autio, William Arthur	Wis.	Baetzner, Elenore Dolores	D.C.
B.S. in E.E. 1946, University of Michigan		Bagby, Mary Lawton	Md.
Auvil, Carl Edward	W.Va.	A.B. 1945, The George Washington University	
A.B. 1938, Berea College		Bagdoyan, Leila Marie	D.C.
Avancena, Manuel Claude	D.C.	Baggs, Isabel Jane	W.Va.
Avery, Clark Milton	D.C.	Bagley, David	Conn.
Avery, Howard Malcolm	Calif.	LL.B. 1948, Catholic University of America	
A.B. 1931, Stanford University		Bailey, Edmund Felix	Md.
Avery, John Lawrence	D.C.	Bailey, Arthur Duncan, Jr.	D.C.
B.S. 1937, University of Maryland		Bailey, Arthur William	D.C.
M.S. 1939, The George Washington University		Bailey, Bertha James	Va.
Arigaone, Martin Julia, Jr.	Md.	Bailey, Charles Robert	D.C.
B.S. in B.A., The George Washington University		Bailey, Frances C.	D.C.
Avila, Johnny Nazario	Puerto Rico	Bailey, Frank	W.Va.
Avnet, Zelda Siller	N.Y.	A.B. 1933, Glenville College	
Awid, Emily	Canada	A.M. 1948, West Virginia University	Tenn.
Awramik, Joseph	Mass.	Bailey, Joseph Fortune	D.C.
Axlrod, Arthur	N.Y.	Bailey, Kathrine Ann	
Axlrod, Benjamin M.	Va.	A.B. 1946, University of Maryland	N.C.
B.E.E. 1933, M.S. 1934, University of Minnesota		Bailey, Kenneth Alexander	Mich.
Axtell, George Clifton	Pa.	Bailey, Leslie Fidel	
Aydinian, George Avmand	N.Y.	A.B. 1934, M.S. 1943, University of Michigan	
Ave, Ralph Claxton	D.C.	Bailey, Margaret Allison	Mo.
M.S. 1941, Northwestern University		Bailey, Margaret Lucille	D.C.
		Bailey, Marguerite E.	Va.
		Bailey, Richard Lake	Md.
		Bailey, Walter, Jr.	Md.

Bailey, William Alfred	Tex.	Balaker, Basil Charles	Pa.
LL.B. 1948, The George Washington University		Balavage, Albert Alphonsus	D.C.
Bailey, William Vero	D.C.	B.S. 1947, University of Pennsylvania	
Bailey, Wilma Alethea	Pa.	Baldadian, John	D.C.
B.S. in Ed. 1944, State Teachers College, California, Pa.		B.S. 1948, Georgetown University	Va.
Bailey, Wilma Blanche	D.C.	Balderson, Leroy Robert	D.C.
Baiman, Jerome	N.Y.	Baldi, Fiorenza Henrietta	Pa.
Bain, Cody	Va.	Baldrick, Olga Turansy	Md.
Baines, Dorothy	D.C.	Baldrige, Reid	
B.S. 1948, The George Washington University		A.B. 1948, The George Washington University	
Bair, William Benton	Pa.	Baldwin, Charles Adams	D.C.
Baird, Donald Benson	Pa.	Baldwin, Don Mervin	Mich.
A.B. 1948, University of Pittsburgh		Balwin, Donald W.	Va.
Baird, Glenn Dean	D.C.	Baldwin, Franklin Hunter	Va.
B.S. 1944, University of Oregon		Baldwin, Jesse Clyde	Va.
Baird, Keith Dwight	Colo.	Baldwin, Robert Buckingham	N.J.
Bailey, Thomas Grey, Jr.	D.C.	Baldwin, William Augustus	N.J.
Baisinger, Grace C.	D.C.	Bale, Ruth	Ky.
Bakeman, Robert Atherton	Md.	B.S. 1939, Northwestern University	Md.
A.B. 1912, Middlebury College		Balentine, William Robert	Mass.
Baker, Annette Cinn	D.C.	Balkan, Mary	Va.
B.S. in Ed. 1940, New York State Teachers College of Buffalo		Balinger, Richard King	France
Baker, Arnold Stephen	Maine	Balkany, Robert	D.C.
Baker, Charles Clare	Calif.	Ball, Charles Emmett	D.C.
Baker, Chester Argus	Mo.	Ball, John Wade, Jr.	
B.S. 1940, University of Missouri		B.S., LL.B. 1946, University of Oklahoma	
Baker, Clara M.	N.C.	Ball, Joseph James	Md.
Baker, Constance	Pa.	Ball, Kenneth, Jr.	W. Va.
Baker, David William	Md.	Ball, Marillyn Alice	S.C.
B.S. in M.E. 1943, University of Maryland		Ball, Michael Philip	Pa.
Baker, Donald Lawrence	N.Y.	Ballance, James Orlan	Ill.
Baker, Dolores Myrna	D.C.	Ballard, Carl Clive	Ohio
Baker, Dorothea Anna	D.C.	Ballard, Dorothy Anne	Wash.
A.B. 1947, LL.B. 1948, The George Washington University		A.B. 1944, Whitman College	
Baker, Edward Welch	D.C.	Ballard, Ralph Campbell	D.C.
Baker, George Summers	Okl.	Balli, Carl Eugene	Fla.
Baker, Gloria Jeannette	D.C.	Ballivian, Jorge Adolfo	D.C.
Baker, Glwynn Robinson	Ohio	Ballows, Glen H.	Va.
B.S. 1948, Purdue University		Balogh, Aloys Joseph	Pa.
Baker, Harold Fred	N.H.	Balogh, Stephen Elmer, Jr.	D.C.
Baker, Harold Leon	Tenn.	Balon, Alfred Joseph	D.C.
Baker, Harry LeRo	Okla.	Baltes, Rita Geraldine	D.C.
A.B. 1947, The George Washington University		Balzer, Clayton Paul	Ind.
Baker, Jack	D.C.	Balzer, Dorothy Theresa	Va.
Baker, Jean	Pa.	Bamver, Elizabeth Marshall	D.C.
Baker, Lester Elwood	N.C.	Bamford, David Ellery	Pa.
Baker, Louis Robert	D.C.	Bancroft, Raymond Lowell	D.C.
B.S. in Ed. 1940, State Teachers College, Superior, Wis.		Band, Philip Theodore	
Baker, Marion	Ky.	A.B. 1945, The George Washington University	
Baker, Marvin Claude	Md.	Bandle, Marion Karl	Utah
Baker, Rex Harding	Ill.	A.B. 1940, Brigham Young University	Md.
A.B. 1948, University of California at Los Angeles		Bangham, Richard Edward	D.C.
Baker, Robert Clifford	Wash.	Bangs, Virginia Lee	Calif.
A.B. 1948, University of Minnesota		Banker, Robert Darrell	D.C.
Baker, Sherman Alexander	Va.	Banker, Sally Bower	Pa.
B.S. 1935, Marquette University		Banko, Andrew	D.C.
Baker, Thomas Lockerbie	D.C.	Banks, Minnie	Conn.
Baker, Waldon Lee	Pa.	Bannon, Raymond Giles	Va.
Baker, William Albert, Jr.	Va.	Bannowsky, Clarence James, Jr.	Pa.
Baker, William Clinton	D.C.	Barachman, Bruce MacDonald	
Baker, William Harold	Ill.	A.B. 1939, Allegheny College	D.C.
Bakke, Frances Irene	D.C.	Barasha, Theresa Marie	Md.
Bakke, Norris Conroy, Jr.	Md.	Baratta, James Carol	D.C.
A.B. 1946, Colorado College		Barb, Marian Lester	D.C.
		Barbelle, Joseph Francis	D.C.
		Barber, Alvin Barton	D.C.
		Barber, Alvin Thomas	
		B.S. 1931, Susquehanna University	Fla.
		Barber, Charles Farmer	

Barber, Frederick Willard A.B. in Gov. 1941, The George Washington University	Calif.	Barnett, Ethelyn King Barnett, Frances Kerr A.B. 1912, Meredith College	Ala. D.C. N.Y. Va.
Barber, John Raymond, Jr. A.B. 1941, Whitman College	Calif.	Barnett, Frank Barnett, Helen McConnell A.B. 1947, The George Washington University	N.Y. Va. D.C. D.C. D.C. Md.
Barber, Lloyd Morris Barber, Max McCallie Barber, Robert Archie Barbera, Anthony Ferdinand Barbieri, Louis Joseph B.B.A. 1940, College of the City of New York	Ala. Tenn. Fla. Md. N.Y.	Barnett, Robert Alexander Barnett, Thomas Mather Barnhart, James Dale Barnhart, Arthur Gooding Barnhart, C. Paul A.B. 1910, Lebanon Valley College M.S. in Ed. 1943, University of Maryland	D.C. D.C. D.C. D.C. Md.
Barbour, Arthur Alexander, Jr. Barbour, Mary Jane Barbour, Robert Ellwood A.B. 1948, University of Tennessee	Va. Va. Tenn.	Barnsley, Richard Souder Barnhouse, Darwin Collier Baroff, George Stanley B.S. 1948, The George Washington University	Va. Va. N.Y.
Barbuck, William James Barwell, Chester Loomis Barefoot, Julius Jackson Barefoot, Verna Young B.S. 1938, University of Cincinnati M.S. 1945, University of Chicago	Mass. D.C. N.C. N.C.	Baron, Florence Catherine Barozzi, Dario L.L.B. 1928, Harvard University	N.J. D.C. Nebr.
Barezolsky, Frances A.B. 1948, The George Washington University	D.C.	Barr, Elizabeth Elvira B.S. 1941, University of Nebraska	N.J. D.C. N.J. D.C.
Barker, John Raymond Bark, Pickard Fowler Bargmann, Kenneth Harlan Barila, Timothy George Barinott, Jeanne Frances B.S. 1947, Pennsylvania State College	Fla. Md. Md. N.M. D.C.	Barr, Joseph Frederick Barr, Solomon Eizen Barrasso, Joseph Alonzo Barnett, Annabel Lombard A.B. 1927, Barnard College	D.C. D.C. D.C. D.C.
Barkish, Benjamin J. B.S. in E.E. 1946, Illinois Institute of Technology	Mich.	Barrett, Beverly Mae Barrett, Charles James Barrett, John Marshall Barringer, Victor Cameron, Jr. B.S. 1917, United States Naval Academy	D.C. D.C. D.C. Conn. D.C. Pa.
Barish, Joseph Barker, Bonnie Jeanne Barker, Ernest Lester Barker, James Earl Barkey, Richard Earle Barkin, Gilbert Donald Barkman, William Ernest L.L.B. 1924, A.B. in Ed. 1936, A.M. 1937, The George Washington University	Pa. D.C. N.Y. D.C. D.C. D.C. D.C.	Barrington, Oscar Dewey Barrington, Phyllis Elizabeth Barrison, William John, Jr. B.S. 1946, State Teachers College, East Stroudsburg, Pa.	Pa. D.C. Pa. D.C. Pa.
Barkow, Mearl Marietta Barkdale, Edward Marcellus A.B. 1948, University of Virginia Barlow, Shirley Barmsby, John Glenmon A.B. 1944, Middlebury College B.S. 1941, Massachusetts Institute of Technology	Mass. Va. Mass. Va.	Barron, Norman Eugene Barron, Paul Jerome Barrow, Claude Arnold Barrow, Jack M.D. 1946, Washington University Barrow, Samuel Wheeler, Jr. Barry, Frances Helen A.B. 1944, Dunbarton College of Holy Cross	D.C. Pa. D.C. Pa. Md. D.C.
Barnaby, Martha Holmes Barnard, Annie Laurie Barnard, Richard Paul B.S. in M.E. 1947, University of Michigan	R.I. Md. Mich.	Barry, John James Barry, John Joseph, Jr. Barry, John Patrick Barry, John William Barry, Robert Barry, Thomas Anthony Barnham, Flora Marie Barsh, Cyril Barson, David Bartelloni, Henry John Bartels, William John Bart, Carl Theodore Barth, Leah Wartha B.S. in Ed. 1917, Bloomsburg State Teachers College, Pa.	Va. D.C. D.C. D.C. Va. D.C. Va. D.C. Mass. N.Y. D.C. Pa.
Barnes, Berry Carter, Jr. Barnes, Donald Frederick Barnes, Duard Roof Barnes, Frank Oakes Barnes, Helen Louise Barnes, Howard Emerson B.S. 1935, University of Florida Barnes, Joanne Louise Barnes, John Lockard A.B. 1948, Western Maryland College	D.C. Md. Ariz. Va. D.C. Md.	Bartlett, Dorsey Joseph Bartlett, Eleanor Althea B.S. 1943, Simmons College Bartlett, Gladys Reid B.S. 1944, Wilson Teachers College	D.C. D.C. D.C. D.C. Pa.
Barnes, Kenneth Clark Barnes, Kyle Dalton Barnes, Robert Francis Barnes, Snell Hardin Barnes, Virginia C. Barnett, Charles Maxwell	D.C. Ala. Va. Ill. D.C. Ohio		

Bartlett, Richard C.	Md.	Baudelaire, Nicole	Md.
Bartlett, William Hugh	D.C.	B.S. 1948, McGill University	D.C.
Bartley, James Hamilton	D.C.	Bauer, Frederick Albert	N.J.
Barton, Charles Edwin	D.C.	Bauer, Hugh Bernard	N.Y.
A.B. 1934, Juniata College		Bauer, Jerome	Va.
A.M. 1940, The George Washington University		Bauer, John Joseph	
Barton, Victor Ewing	Va.	Ph.B. 1925, Brown University	Md.
Barton, William Jacob	Md.	Bauer, Mary Graybill	Va.
Bartram, Howard W.	Md.	Bauer, Richard Arthur	D.C.
A.B. 1934, Earlham College		Bauernschmidt, George William	Ten.
A.M. 1936, Syracuse University		Bauers, Frank William	Md.
Baruch, Blanche Josephine	D.C.	Bauersfeld, Samuel Richard	
B.S. 1943, Wilson Teachers College	N.Y.	M.D. 1944, The George Washington University	
Baruch, Maurice Jacques		Baushman, Charles William	Pa.
B.S. 1935, College of the City of New York		Baushman, Pamela Ruth	Md.
Barwick, Joel Richard	Md.	Banknight, William Cooper, Jr.	Va.
Barwick, Leonard	D.C.	B.S. 1942, University of Virginia	Pa.
Basarab, Stephen	Pa.	Baum, Norman	
Baskam, Anne Layton	Va.	A.B. 1948, Bucknell University	D.C.
Basham, Frances Alma	Va.	Baum, Ralph Lindsay	D.C.
Bashore, Marilyn Jean	Md.	Baum, Stanley Harold	S.D.
Basile, Anthony Stephen	D.C.	Bauman, Carl Robert	D.C.
Baskin, Robert E.	Va.	Bauman, Carol P.	Va.
Baskin, William Maxwell	Va.	Bauman, Frank Henry, Jr.	D.C.
Baslini, Franca	D.C.	Bauman, Jerome Morris	Neb.
Baslini, Francesco	D.C.	Bauman, John Lee	Va.
Bass, Charles Alvin	D.C.	Baumann, Charles S.	D.C.
Bass, Charles White	Tenn.	Baumann, Dorothy Clare	N.Y.
Bass, Marvin William	D.C.	Baumann, Edward Norman Ralph	Va.
A.B. 1948, The George Washington University		Baumann, Robert Coile	D.C.
Basta, John William	Md.	Baumann, Robert Gustav	
B.S. 1934, State Teachers College, Mansfield, Pa.	Conn.	B.S. University of North Carolina	D.C.
Bastek, John Anthony	D.C.	Baumboltz, Herman	Va.
Bastian, David Charles		Baumgardner, Fanning Miles	
A.B. 1948, University of Maryland	D.C.	B.S. 1943, Virginia Polytechnic Institute	N.Y.
Bastos, Mercedes	W.Va.	Baumgarten, Irene	N.Y.
Batalo, George	Mass.	Baumgarten, Stephen Harvey	D.C.
Batchelder, Dana Abbott		Bauroth, Leonard Arthur	Md.
A.B. 1948, The George Washington University		Baus, Donald Eugene	Pa.
Batease, John Charles	Md.	Baus, Richard Albert	
Bateman, William Raphael	D.C.	B.S. 1937, Lebanon Valley College	Md.
Bates, Charles Conrad	Md.	Bausell, Charles William	D.C.
Bates, Dorothy May	Ky.	Bausell, Martha Elizabeth	Kans.
A.B. 1937, Western Kentucky State Teachers College		Baxa, Edmund Theodore	N.C.
Bates, Frederick LeRoy	Va.	Baxley, Paul Everett	D.C.
Bates, George Byron	Md.	Baxter, Mary Jane	Pa.
Bates, Helen	Va.	Baxter, Maud Neilson	Ill.
Bates, Ward Pendleton	Md.	Bay, Paul Georgeoff	Mo.
A.B. 1930, Trinity College		Bayer, Jacob Weller	Md.
Batey, Thomas Overton	D.C.	Bayles, Barney Elishia	N.J.
Bath Robert Gordon	D.C.	Baylison, Richard Norman	Md.
A.B. 1941, Columbia University		Baylor, Walter Robert	
Barbory, Joseph Patrick	D.C.	B.S. 1947, University of Maryland	Va.
Ratkin, Josephine	N.Y.	Baynard, Ernest Cornish	Va.
Bartley, Beverley Anne	Va.	Bayon, Harry	N.Y.
A.B. 1948, The George Washington University		Bayreuther, Florence Elizabeth	
Batson, Clifton Jenks	N.C.	A.B. 1939, New York State Teachers College, Oneonta	Md.
Batson, David Royal	D.C.	Beach, David Jerome	D.C.
Batson, Donald Purdy	D.C.	Beach, Elmo	
Battaile, William George	D.C.	A.B. 1945, University of Missouri	Va.
Battaini, Alberto Enrique	D.C.	Beach, George R.	Miss.
Battani, Victor	Calif.	Beach, Jacob Hildon	D.C.
Batten, Hugh Nash	W.Va.	Beacham, Samuel Timothy, Jr.	D.C.
Battin, James Franklin	Va.	Beachy, Elizabeth Jane	
Battistella, Walter Louis	Md.	B.S. 1946, University of Maryland	Va.
Battle, Frederick Hugh, Jr.	Va.	Beahm, Doris Louise	Va.
		Beahm, Ralph Emmett	D.C.
		Beale, Edgar Joseph	Va.
		Beall, Ann Hathaway	Md.
		Beall, Bernard Murray	

Beall, Elizabeth Ann	D.C.	Bedke, Herman Earl	Idaho
Beall, Harry Spurgeon	D.C.	B.S. 1941, University of Utah	
Beall, John Natus, Jr.	Va.	Bebe, William Basell	D.C.
Beardmore, Walter Harvey	Md.	A.B. in Gov. 1946, The George Washington University	
Beardley, James Henry	N.Y.	Bebe, William Dow	Va.
Beatty, Dale Ward	Mich.	Becher, John Joseph	Pa.
Beatty, Channing Ernest	Ill.	A.B. 1949, University of Pennsylvania	
Beatty, Derwood Marice	Tex.	Beeman, Dredward Arthur	Mass.
Beatty, Jess Lee	D.C.	A.B. 1941, Harvard University	
A.B. 1946, Phillips University		M.D. 1947, Boston University	
Beatty, Mary Jane	Va.	Beers, John Sturges	D.C.
Beattie, Edward James	D.C.	Beers, Stephen Lee	N.J.
Beatty, Alta Mae	D.C.	Beece, Edward Thomas	Oreg.
Beatty, Burton Paul	N.Y.	Beece, Lawrence Laverne	Va.
B.S. in C.E. 1944, Virginia Military Institute		A.B. 1945, North Central College	
LL.B. 1948, Fordham University		Beeson, Sidney McNeill	Va.
Beatty, George Calvin	Va.	Beets, Raymond Roy	Tex.
Beatty, Harry Bartton	D.C.	Beets, Helen Louise	Ga.
A.B. 1948, The George Washington University		Beets, James Joseph	Pa.
Beatty, Mary Louise	Ohio	Beets, Joseph Thomas	D.C.
Beatty, Jack S.	D.C.	A.B. 1946, Fordham University	
Beatty, Jay Ralph	D.C.	A.M. 1948, Columbia University	Pa.
Beatty, Richard Wendland	Va.	Behane, Mary Josephine	
Beatty, Vernon LeRoy	Pa.	A.B. 1922, Seton Hill College	
Beauchamp, John Phillip, Jr.	R.I.	Behling, John Lawrence, Jr.	N.Y.
A.B. 1946, Brown University		A.B. 1948, The George Washington University	
Beaudet, Grouch Clemence	Va.	Behm, Harold Norman	Mo.
Beaver, Arthur	W.Va.	Behneman, John Francis	Md.
Beaver, Carl Westbrook	Va.	Behrens, Raymond William	D.C.
Beaver, Clarence Lester	D.C.	Behr, Joseph Andrew	Ohio
Beavers, Virginia Lee	D.C.	Behrmann, Laverne Theodore	D.C.
Beasley, Lewis Kaspar	D.C.	Beise, Betty Marie	D.C.
B.S. 1934, United States Military Academy		Beise, Robert Joseph	D.C.
Bechtel, Royal Arthur	Ind.	Beise, Richard	D.C.
B.S. 1948, Indiana University		Beiman, Robert Allen	D.C.
Bechtoldt, Cloris Joseph	Ill.	Beilstein, Christian William	D.C.
Beck, Emanuel Arthur	N.Y.	Beimford, Louis A.	Ohio
B.F.E. 1948, The George Washington University		B.S. in B.A. 1948, Miami University	
Beck, Helen M.	D.C.	Beise, Edward Lincoln	Mo.
B.S. 1922, University of Texas		Beke, Steven	N.I.
Beck, Herbert Valentine	Va.	Belakower, William Alfred	D.C.
Beck, Hugo Michael	D.C.	Belant, Bernard Brian	D.C.
Beck, John Albert	Md.	Belbin, Charles Testhune	D.C.
Beck, John Edward	Iowa	Belcher, Philip George	N.Y.
B.S. 1948, The George Washington University		Belden, Arthur Williams, Jr.	Ala.
Beck, John William	Pa.	Belden, Thomas Graham	Mich.
Beck, Mary Elizabeth	Va.	B.S. 1948, The George Washington University	
Beck, Rose Euna	Fla.	Beles, Raymond Fulton	D.C.
Beck, Vera Audrey	N.Y.	Belk, Harry Clinton	S.C.
A.B. 1948, The George Washington University		A.B. 1943, Wofford College	
Becker, Eugene Joshua	N.Y.	Bel, Colley Wood, Jr.	N.Y.
Becker, Helen Marie	D.C.	A.B. 1947, Princeton University	
A.B. 1948, Western Maryland College		Bel, Daniel Harry	Va.
Becker, Joseph	D.C.	Bel, Donald Raymond	Kans.
Becker, Joseph Arula	D.C.	A.B. 1948, College of Wooster	
Becker, Martin Stanley	D.C.	Bel, Edward Leroy	Ohio
Becker, Robert Raymond	D.C.	B.S. in M.E. 1946, Illinois Institute of Technology	
Beckett, Robert Lee	Md.	Bell, Esther	D.C.
Beckett, Sue Westfall	Md.	Bell, Forrest Horatio	Va.
Becker, Seymour	Md.	Bell, Gerald Irwin	D.C.
Beckman, Gordon Walter	D.C.	Bell, Howard Wesley, Jr.	Mass.
Beckwith, Martin Casey	N.Y.	Bell, Ivan Francis	Va.
Beckwith, Thomas Larson, Jr.	Md.	Bell, James Malone	D.C.
Becker, Clarence Edwin	N.I.	A.B. 1946, University of California	
Bedford, Lynn Wesley	Md.	Bell, Jay Richard	Utah
B.S. 1941, University of Missouri	D.C.	Bell, Jean Alice	D.C.

Bell, John Murphy	Okla.	Bennett, Warfield Clay, Jr.	Ky.
B.S. in A.E. 1933, University of Oklahoma		B.S. 1936, United States Naval Academy	
Bell, Joseph Thomas	D.C.	Bennett, William Andrew	N.Y.
Bell, Rollin Meredith	D.C.	Bennett, William Batsonelder	Va.
Bell, Walter Fuller, Jr.	D.C.	B.S. 1935, University of New Hampshire	
Bell, William Salisbury	Md.	A.M. 1936, Ph.D. 1941, Louisiana State University	
Bellak, Joseph Michael	D.C.	Bennett, William Tapley, Jr.	Ga.
Bellamah, Frederick Joseph	D.C.	A.B. 1937, University of Georgia	
Beller, Israel	D.C.	Benning, James Miller	Calif.
Bellis, Tom	Mo.	Bennington, Helen Annette	Md.
A.B. 1929, Southeast Missouri State College		B.S. 1947, University of Maryland	
A.M. 1931, University of Cincinnati		Bennsky, George Michael	D.C.
J.D. 1948, The George Washington University		Benout, George Campbell	D.C.
Bellomy, Bruce Ben	Va.	Benson, Arthur Leonard	Md.
Bellows, Edna Walter	Va.	A.B. 1933, Lehigh University	D.C.
Belmont, Mary Louise	N.Y.	Benson, Carol Ardene	Va.
Beloff, Abraham Philip	D.C.	Benson, Carol Eliason	Maine
Below, Margaret Colbeck	D.C.	Benson, Clair Frank	
Belson, Mae Goldie	D.C.	A.B. 1913, Colby College	Calif.
Belt, Charles Vernon	D.C.	Benson, Floyd W.	
Belt, Lloyd Kenneth	D.C.	A.B. 1918, Stanford University	Va.
Belt, Osborn S.	Md.	Benson, Harnette Miller	D.C.
A.B. 1943, Allegheny College		Benson, Jacques Marlene	
M.C.S. 1947, Dartmouth College		B.S. 1947, Utah State Agricultural College	Md.
Belza, Joseph Francis	W Va.	Benson, Margaret Brown	
Belyea, Byard Charles	Mass.	A.B. 1940, East Carolina Teachers College	D.C.
B.S. 1936, University of New Hampshire		Benson, Mildred	N.D.
M.S. in Ed. 1940, Boston University		Benson, Paul	
Benardos, George	D.C.	B.S.C. 1942, University of North Dakota	Va.
Benbenek, Lydia Panek	Va.	Benson, Virginia B.	
Bender, Howard Walter	Pa.	A.B. 1936, College of William and Mary	D.C.
Bender, Paul Ferdinand	Del.	Benson, Wilbur Earle	D.C.
B.E.E. 1947, University of Delaware	Ind.	Benson, William Ewell	Va.
Benedict, James Thomas	N.Y.	Benton, James Alton	
Benedict, Thomas Reilly	D.C.	A.B. 1948, Eastern Nazarene College	Md.
Beneman, Charles Henry		Benton, Jean Elizabeth	
A.B. 1944, A.M. 1947, The George Washington University		A.B. 1940, Mount Holyoke College	D.C.
Benetton, Ernest Raymond	R.I.	A.M. 1942, Southwestern University	Wia.
Benington, Orchard	Va.	Benz, Robert Paul	D.C.
Benit, Henry Junior	La.	Beran, Irene Frances	D.C.
Benjamin, Betty Ruth	D.C.	Berlaus, Richard John	D.C.
A.B. 1948, The George Washington University		Berenson, Mendelle Tourover	D.C.
Benjamin, Robert Serell	Mich.	Berenson, Solomon Martin	D.C.
A.B. 1942, Albion College		Berg, Esther Lubby	D.C.
Benjamin, Vernon Edgar	N.Y.	Berg, Karl Joseph	D.C.
Benkovic, Simon Edward	Pa.	Berg, Lovella Miller	D.C.
Benn, Hazel Elizabeth	Maine	Berg, Martin Donald	D.C.
A.M. 1948, The George Washington University		Berg, William Marston	Va.
Bennet, Joseph Campbell, Jr.	Va.	Bergbom, Frank Vincent	D.C.
Bennett, Amee L.	Kans.	Bergen, Willis, Jr.	D.C.
Bennett, Ann Rutherford	W Va.	Bergen, Willis, Sr.	Va.
A.B. 1919, Goucher College		Berger, Alfred Edward	
Bennett, Elizabeth S.	N.Y.	B.B.A. 1940, College of the City of New York	Pa.
Bennett, Harry Haren	D.C.	Berger, Arthur Joseph	
Bennett, Joan Kathleen	Pa.	A.B. 1948, Bucknell University	D.C.
Bennett, Kenneth	D.C.	Berger, Bernard Nelson	Md.
Bennett, Kenneth Chester	Va.	Berger, Betty Carolyn	
Bennett, Kenneth Homer	Ohio	A.B. 1948, Mount Holyoke College	D.C.
Bennett, Kenneth Melvin	Conn.	Berger, Dorothy Shirley	D.C.
Bennett, Milton Orene	Va.	Berger, Florence Bernice	D.C.
Bennett, Ralph Henry	D.C.	Berger, Martin	Pa.
Bennett, Rebecca	D.C.	Berger, Samuel Morris	D.C.
Bennett, Ross Stanley	D.C.	Berger, Thomas Tibor	
Bennett, Vercille Leonard	D.C.		

Berglund, Ralph Vincent	Minn.	Bers, Melvin K.	D.C.
A.B. 1942, Concordia College		A.B. 1943, A.M. 1948, The George Washington University	
Bergman, Melvin John	D.C.	Bersey, Joseph Bernard	N.J.
Bergman, William Hunter	D.C.	Benson, Harold Ralph	Nev.
Bergmann, Frederick Louis	D.C.	Berthold, Heinz Alfred	D.C.
A.B. 1937, Washburn College		Berthold, Herbert Kurt	D.C.
A.M. 1939, State College of Washington		Bertola, Hugo John	Mich.
Bergmann, Robert T.	Md.	A.B. 1948, University of Michigan	
B.S. in E.E. 1943, University of Maryland		Bertolini, Ernest Paul	D.C.
Bergren, Orville Vernon	Mich.	Bertram, Clarence Russell	Md.
B.S.C. 1940, University of North Dakota		Beadine, Lillian	D.C.
Bergstein, Sandra	D.C.	Besier, Rudolph	D.C.
Bergstrom, Roger Heaner	Md.	Besoner, Jacob	D.C.
Berish, Robert Martin	Pa.	Bessman, Alice Neuman	N.J.
Berkeley, Randolph Carter, Jr.	Va.	A.B. 1943, Smith College	
B.S. 1938, United States Naval Academy		Bessman, Samuel Paul	N.J.
Berkey, Josephine Ann	D.C.	M.D. 1944, Washington University	
A.B. 1941, Indiana University		Best, Cressett Mitchell	Ark.
Berkow, Morton Donald	D.C.	B.S. 1947, University of Alabama	
B.S. 1946, Franklin and Marshall College		Best, Harold Lloyd	N.Y.
Berkowitz, Leon	Pa.	Best, Lee James	N.C.
A.B. 1934, University of Pennsylvania		A.B. 1939, Duke University	
Berkowitz, Leonard L.	N.Y.	Best, Pearl Frances	Va.
Berkowitz, Leonard Moses	N.Y.	Bethel, Marion Ann	Okla.
A.B. 1940, Brooklyn College		Bettendorf, Valerie	Minn.
Berlanstein, Jean Bernice	D.C.	Betts, Anne Hobbs	D.C.
Berlin, Jerome Irwin	Va.	B.S. 1943, Cornell University	
Berliner, Hans Jack	D.C.	Betts, Matilda Hobbs	D.C.
Berlinsky, Louis	D.C.	A.B. 1947, Vassar College	
Berlinsky, Stanley Louis	D.C.	Betzler, John Richard	Va.
Berman, Harold John	D.C.	Bevelacqua, Charles Angelo	Pa.
B.S. 1948, Georgetown University		B.M.E. 1946, University of Pittsburgh	
Berman, Hyman	N.Y.	Beverage, Ruth Margaret	W.Va.
Bernabe Prida, Rafael Antonio	Puerto Rico	Bevins, Roswell Morton	Vt.
Bernardy, John Edward	D.C.	Bevis, Charles Vann	Fla.
Bernatson, Arthur Henry	Va.	Beyen, Karel Herman	D.C.
Berne, William	D.C.	L.L.M. 1948, University of Amsterdam	
Berner, John Thomas	Pa.	Bialek, Robert	D.C.
Bernot, Joseph John	Pa.	Bialek, Stanley Morris	D.C.
Bernst, Louis Conrad	N.Y.	Bialek, Teddy	D.C.
Bernstein, Charles Nathaniel	D.C.	Biauni, Adolph Paul	Pa.
B.S. 1939, College of the City of New York		Bibb, Lawrence Clayton	Va.
Bernstein, Jerome Leonard	N.Y.	Biddle, Maurice Francis	Calif.
Bernstein, Joseph	Pa.	Bie, Rita Marie	Fla.
Bernstein, Michael Joseph	N.Y.	Biederbach, Herbert Edward	Calif.
L.L.B. 1940, L.L.M. 1946, New York University		Riemans, Anthony Peter	D.C.
Bernstein, Norman	D.C.	Rienas, Walter John	Md.
Bernstein, Paul	D.C.	Bierly, Jack Sealton	Md.
Bernstein, Philip Harris	D.C.	A.B. 1941, M.S. in Ed. 1942, University of Maryland	
Bernstein, Stanley Bertram	N.Y.	Bierly, Robert Foust	Md.
Berquist, Stanley Paul	Mass.	A.B. 1943, University of Maryland	
A.B. 1943, Knox College		Bierwagen, Walter John	Md.
Berrett, Malcolm Ernest	Md.	Biesemeier, Harold Woodall	Md.
Berrio, Esther Maria	D.C.	B.S. 1940, United States Naval Academy	
Berry, Arland Norwood	Md.	Bietz, John R.	Va.
Berry, Charles Weisdel	N.C.	A.B. 1929, Union College	
Berry, Hugh Gordon	D.C.	Biggs, Joseph Daniel	D.C.
Berry, Jack Alonzius	Ill.	A.B. 1940, East Carolina Teachers College	
Berry, Margaret Virginia	Pa.	Bikowski, John Adam	Pa.
Berry, Robert Hahn	Ohio	Bischoff, Wayne Lawrence	Ill.
Berry, Seymour	N.Y.	Bisland, Alene	D.C.
Berryman, Richard Blaxton, Jr.	D.C.	Bilinski, Chester Frank	Ill.
		Billar, Charles Mayo	Va.
		Bitter, Paul Stanley	N.Y.
		Billhimer, William Henry	Md.
		Billich, Eugene Wycoff	D.C.

Billings, Dorothy Louise B.S. 1936, Farmville State Teachers College, Va.	Va.	Bishop, William Robert	N.Y.
Billings, Nancy Devel	Md.	Biscar, Aaron	D.C.
		Blakemore, George Jefferson	Pa.
		Blakemore, Lemuel Anthony	D.C.
		B.S. 1940, University of Minnesota	N.H.
		Blanchard, Donald David	N.J.
		Blanchard, Millard Lewis	
		Blanchett, Carl B.S. 1944, United States Coast Guard Academy	N.J.
		Blanco, Richard Lidio	

Blanding, Evelyn Smith A.B. 1943, Radcliffe College	D.C.	Blodgett, Norman Stack B.S. 1944, Worcester Polytechnic Institute	D.C.
Blandy, Marie Emily	D.C.	Blondell, Jeanne Elizabeth Blondes, Leonard Saml	Md. Ohio
Blankenheimer, Bernard A.B. 1941, Brooklyn College	N.Y.	Blondheim, Dorothy Hudson A.B. 1944, Miami University	N.C.
Blankenship, James Delbert	Md.	Bloom, Carrington Murray	D.C.
Blankenship, Leroy Clifton	D.C.	Bloom, Eli Henry	N.Y.
Blankenship, Virginia Lee	D.C.	Bloom, Howard	Md.
Blankley, William Bardo	Va.	Bloom, Jerome Philip B.S. 1947, Wayne University	Mich. N.M.
Blanton, Joseph Warren	Va.	Bloom, John Potter A.B. 1947, University of New Mexico	Va. N.Y.
Blasangame, Paul Arthur B.M.E. 1948, The George Washington University	Va.	Bloomington, Gene Gay Blouch, Glenaourte Ethel	Canada
Blasbalg, Heritan B.E.E. 1948, College of the City of New York	Va.	Blouin, Josette Marie	N.Y.
Blaschak, Veronica	D.C.	Blubstein, Seymour	N.Y.
Blaser, John Frank	D.C.	Blue, Eugene Augustus	Tex.
Blatchford, Walter Larned B.S. 1933, United States Naval Academy	Ill.	Blue, John Frederick B.S. 1942, North Carolina State College	D.C.
Blattman, Abe Elliot	N.Y.	Blum, Bernard Marvin	D.C.
Blattman, Leon A.	N.Y.	Blum, Irwin Ellis B.S. 1933, Brooklyn College	N.Y.
Blaustein, Sheldon Eli B.E.E. 1947, College of the City of New York	N.Y.	J.D. 1948, The George Washington University	Va.
Blease, Bernice Alease	D.C.	Blum, Joseph	D.C.
Blechman, Martin George	N.J.	Blum, Martin Charles	N.Y.
Bleckley, Viola Prudence A.B. 1949, Piedmont College	Ga.	Blum, Marvin B.S. 1948, Brooklyn College	D.C.
Blee, Holly Jane	Calif.	Blum, Royal Isaac	N.J.
Bleeker, David	N.Y.	Blumberg, Marvin	N.C.
Bless, Betty Shirley	Md.	Blume, Adelaide	Md.
Blessing, Edwin Hoffer B.S. 1936, Dickinson College	Va.	Blumenfeld, Herbert Lee	N.Y.
Blevins, Eugene Winford A.B. 1943, King College	D.C.	Blumenkopf, Norman A.B. 1941, Brooklyn College	D.C.
Blevins, Hansel Herbert	Tenn.	Blumenkrantz, Lawrence	Md.
Bliss, Charles Augustus B.S. 1933, United States Naval Academy	N.J.	Blumer, Frederick Gordon	D.C.
M.B.A. 1947, Harvard University	D.C.	Blute, William Augustine	Wash.
Blick, Robert Edwin B.S. 1932, United States Naval Academy	D.C.	Boag, Arthur Raymond	N.J.
M.S. 1930, Massachusetts Institute of Technology	D.C.	Boak, David Gordon A.B. 1947, University of North Carolina	D.C.
Blick, Catherine Louise	D.C.	Boak, James Harold	S.C.
Bliss, Francis O'Donovan, Jr.	Md.	Boatwright, Hazel Sue	Md.
Blitch, Michael Gordon	Va.	Bochenek, Benjamin Herman B.S. 1947, University of Maryland	N.Y.
Blitten, Glenn Edward B.S.C. 1943, University of Iowa	Iowa	Bock, Eugene William	Conn.
B.F.S. 1947, Georgetown University	D.C.	Bocobo, Dulce Laurel B.S. 1939, University of the Philippines	Fla.
Blitman, Samuel A.B. 1931, College of the City of New York	D.C.	Bodien, Robert Clark	D.C.
A.M. 1938, Columbia University	N.Y.	Bodine, Charles Edwin	Iowa
Birzstein, Ethel	N.Y.	Bode, Bertha Irene A.B. 1912, Iowa State Teachers College	N.J.
Bloch, Robert Oakleigh	Nebr.	Bodinger, Rhoda Helen	Fla.
Blox, Florence B.S. 1928, A.M. 1929, University of Pennsylvania	D.C.	Bodnyk, Katherine	Ohio
Block, Frederick Laurence	N.Y.	Boehler, Robert E. A.B. 1916, University of Toledo	D.C.
Block, Harold Stanley B.S. in E.E. 1944, University of Missouri	Pa.	Boehlet, Irene Elizabeth	N.Y.
Block, Huntington Turner A.B. 1948, Princeton University	D.C.	Boehlet, Jessie Clara	D.C.
Block, William Edward, Jr. Ph.B. 1947, University of North Dakota	N.D.	Boehlet, Rosemary A.B. 1919, The George Washington University	N.Y.
Block Barton, Fred Hubert	Calif.	Bog, Rodolph Hans	D.C.
		Bogach, David Swaine	D.C.
		Bogach, Ruth Elinor	D.C.
		Bogdan, Patricia Alice	D.C.
		Bogdanoff, Isidore	N.Y.
		Bogema, Stuart Chapman	D.C.
		Bogen, William	N.Y.

Boggs, Gail Everett	D.C.	Bonnett, Leo Victor	Ill.
Bogley, William Tuckerman	D.C.	Bonney, Charles Lee	Va.
Bogorad, Abraham	N.Y.	Bono, Evert Lee	D.C.
B.S.S. 1941, College of the City of New York		Bonwit, Kenneth Stanley	D.C.
Bogue, Jesse Parker	Md.	Booher, Jonathan Gurrin, Jr.	Ky.
Bohan, John Patrick	Pa.	Booher, Patti Yvonne	Va.
Bohan, Joseph James	Pa.	Booker, Lewis Albert	Va.
Bohon, Robert Marion	D.C.	Bookamer, Robert Harry	Va.
Bohonis, John	Md.	Bookman, Irving	N.J.
Bohrer, Doris Sharrar	Md.	A.B. 1940, New York University	Ind.
Boin, Jerome King	D.C.	Boone, Betty Jane	
Boisen, Morton	N.Y.	A.B. 1948, Ball State Teachers College, Muncie, Ind.	D.C.
Boissonneault, Loretta Lucy	D.C.	Boone, Marjorie Ann	
Boker, Irving Thomas	D.C.	B.S. 1948, Northwestern University	D.C.
Boklund, Gustaf Leonard	D.C.	Boone, Thomas Hood	Pa.
Boksenbon, Jack	Ohio	Boop, Mahlon Ellwood	D.C.
A.B. 1935, Western Reserve Uni- versity		Boorman, Robert Henry	D.C.
Boland, Gertrude Mary	D.C.	Booth, Emma Jean	Va.
Bolen, Clarence Leland	Va.	Booth, Marjorie Manella	
Bolhagen, Clifford Fred	Md.	B.S. 1936, Farmville State Teachers College, Va.	
L.L.B. 1948, The George Washington University	Ill.	A.M. 1940, Columbia University	Iowa
Bollard, Isabelle M.		Booton, Robert Edward	Va.
B.S. 1933, West Tennessee State Teachers College		Booty, Philip Cuthbert	D.C.
Bolles, Frank Crandall	Tex.	Bor, Robert M.	
B.S. 1934, United States Naval Academy		A.B. 1943, New York University	D.C.
Bollie, Ernest John	Iowa	L.L.B. 1947, Columbia University	
Bollinger, Howard Moore	D.C.	Borah, Leo Arthur, Jr.	Wis.
B.S. 1943, M.S. 1947, Massachusetts Institute of Technology		A.B. 1947, Swarthmore College	
M.B.A. 1948, Harvard University		Borchardt, Edward George	
Bollinger, John Daniel	Pa.	B.E.E. 1935, Wisconsin State Teachers College, La Crosse	D.C.
Bolitt, Robert	N.Y.	Borchardt, Owen Franklin	Mo.
Bolton, Alice Roberta	Md.	Borchelt, Benjamin August	
Bolton, Alice Rohrer	Va.	B.S. 1941, The George Washington University	Wis.
B.S. 1932, Madison College		Borcherding, Earl William	Conn.
Bolton, Melissa Dement	Md.	Borcynski, Henry Ferdinand	D.C.
Bolton, Vivian Reynolds	Pa.	Borden, Richard LeRay	
Boltz, Donald Arthur	S.D.	A.B. 1946, Harvard University	D.C.
Bon, David McCulloch	D.C.	Boree, Howard Ralph	Va.
Bon, Franklin Albert	Va.	Borel, Paul Arnold	
A.B. 1948, College of William and Mary		B.S. in C.E. 1934, University of Kansas	
Bonanno, Mary	D.C.	M.B.A. 1938, Harvard University	Ark.
Bonevitch, George Michael	Pa.	A.M. 1943, Columbia University	Ark.
Bond, Gorman Morton	Md.	Borengasser, Margaret Catherine	Norway
Bond, Russell Vernon	D.C.	Borengasser, Rosalie Elizabeth	Pa.
Bondareff, William	Md.	Borge-Ask, Elisiv	D.C.
Bonds, Mary Alice	Va.	Borghi, Angelo Vincent	D.C.
Bondy, Malcolm Edward	D.C.	Borkowski, Walter Aloysius	Ill.
Bone, Robert English	D.C.	Borland, Eugene Victor	Md.
Bonga, Bernese Marie	Minn.	Borman, Robert Kinsley	D.C.
Bonham, Luke Warren	Tenn.	Bornefeld, Helen Burns	D.C.
Bonilla, Lempira Eusebio	D.C.	Bornmann, Carl Louis	N.C.
Bonix, Austin Jerome	N.Y.	Bornstein, Irwin Seymour	
B.S. 1933, College of the City of New York		Boroughs, Lewis Edward	
Bonkowski, Adam Stanley	Md.	L.L.B. 1948, The George Washington University	D.C.
Bonnell, Elwyn Thomas	Mich.	Borow, Bernard	Va.
A.B. 1943, Michigan State College		Borror, Barbara Lee	N.J.
Bonnell, Virginia Crosswhite	Mich.	Borrus, Anita Helene	N.J.
A.B. 1943, Municipal University of Wichita		Borrus, Bernard D.	Pa.
Bonner, Arthur Bohys	D.C.	Bortner, Jeffrey Clair	D.C.
Bonner, Jane Pierce	Va.	Borts, Ellen Laubacher	
Bonner, Jessa Marie	D.C.	B.S. in Ed. 1945, Wilson Teachers College	D.C.
Bonner, Josephine Elizabeth	Va.	Borysko, Emil	N.Y.
Bonner, Sally Rose	Tenn.	A.B. 1940, Brooklyn College	
Bonnett, Avona Irene	Md.	Borziller, Paul Thomas	

Bose, Amalendu	D.C.	Bowling, Frances Hazel	Va.
B.S. 1940, Calcutta University		Bowman, George Washington	Md.
M.S. 1948, Polytechnic Institute		Bowman, Anna Elizabeth	Va.
of Brooklyn		Bowman, Clarence Higbee	D.C.
Bosin, Leonard Albert	Va.	Bowman, Julian Holt	Md.
Bosin, Sylvia Estelle	Va.	Bowman, Margaret Elizabeth	Md.
Bosman, Joan Frances	N.Y.	Bowman, Robert T. Hansen	Md.
Bosmans, Thomas Constantinus	D.C.	A.B. 1948, Miami University	
Boss, Betty Ann	D.C.	Bowman, Ruth Rebecca	Va.
Boss, Evelyn Emma	Va.	Boyce, Wesley Orton	Va.
A.B. 1920, Oklahoma Agricultural		Boyers, Carl	Md.
and Mechanical College		B.S. 1940, College of the City of	
Bostick, James Lynn	Ark.	New York	
Boston, William Theodore	Md.	Boyce, David Barry	D.C.
A.B. 1921, Washington College		Boyce, William Lee	Va.
A.M. in Ed. 1946, University of		A.B. 1948, Shepherd College	
Maryland		Boyd, Alfred Rowe	Md.
Boswick, Don Phillip	Iowa	Boyd, Frank John	Va.
Boteler, Basil	D.C.	Boyd, Patricia Evelyn	D.C.
Boteler, Marcella	D.C.	B.S. 1938, A.M. 1940, George	
A.B. 1945, The George Washington		Peabody College for Teachers	
University		Boyd, Robert James	D.C.
Bothwell, Martha Lue	Kans.	Boyd, Thompson Harms	Ill.
Boskin, Dwight M.	Okla.	B.S. 1946, University of Oklahoma	
B.S. 1948, Oklahoma Agricultural		Boyd, Tobias J.	D.C.
and Mechanical College		Boyd, William Walker, Jr.	Pa.
Bottomley, Helen Mae	Mass.	Boyer, Delos White	D.C.
Bottomley, Mary G.	D.C.	Bower, James Orval	Pa.
A.B. 1943, Wellesley College		Boyer, Joan Zelda	Mass.
Bottom, Sara Frances	D.C.	Boyer, John Alton	Md.
Botts, Max Eugene	Va.	A.B. 1948, The George Washington	
Bote, Eugene George	Ind.	University	
Bouffard, Nelson J.	D.C.	Bower, Margaret Emily	Md.
Bouffon, Rene Andrew	Mass.	Bower, Patricia Anne	Md.
Bouldin, Isabel Spotswood	Va.	Boyer, Sarah Lucy	Va.
Boulin, Max Remy	D.C.	Boyko, Edgar Paul	D.C.
Bouquet-Chautemps, Jean Pierre Edouard	Md.	LL.B. 1946, University of Maryland	
Bourgeois, Donald Grayson	La.	Boylan, Robert Thomas	Pa.
Bourke, Anne Rosalene	Md.	B.S.E. 1947, University of	
B.S. 1937, University of Maryland		Pennsylvania	
Bourne, Hunter Carson, Jr.	D.C.	Boylan, Vincent DePaul	N.Y.
B.S. in E.E. 1943, Virginia		B.B.A. 1940, Manhattan College	
Polytechnic Institute		Boyland, Paul M.	Md.
Bowaren, Nancy Margaret	D.C.	Boyle, Anthony Francis	N.Y.
Boston, Kathleen Jefferson	Va.	A.B. 1948, The George Washington	
Boward, Lawrence Mark	Md.	University	
Bowden, Allie M.	Va.	Boyle, Barbara Alice	N.Y.
B.S. 1921, Columbia University		Boyle, Betty Jean	Wis.
Bowen, David	Va.	Boyle, Helen Gertrude	D.C.
Bowen, Donald Eugene	Mont.	Boyle, James Edward	Minn.
Bowen, Edward Norman	N.J.	Boyle, John Edward	Va.
B.S. in M.E. 1944, Rutgers		Ph.B. 1917, Marquette University	
University		Boyle, John Vincent	D.C.
Bowen, Francis Leo	Pa.	Boyle, Peter Frederick	D.C.
A.B., B.S. 1948, High Point College		B.S. 1935, United States Naval	
Bowen, Lois Green	D.C.	Academy	
A.B. 1935, American University		Boyle, Peter Joseph	Minn.
Bowen, Thales, Jr.	D.C.	B.S. 1946, The George Washington	
Bowen, Verna Sarah	Utah	University	
Bower, Robert Sharon	Va.	Bracey, Harry Bell, Jr.	Tenn.
A.B. 1929, Stanford University		Bracken, Leath M.	Va.
Bower, Vincent Edward	D.C.	Brachett, Lois Anne	Va.
A.B. 1943, Washington University		Braddock, Harry Elton	N.I.
Bowers, Richard Simpson	D.C.	B.S. 1945, United States Naval	
Bowers, William Thomas	Va.	Academy	
Bowie, Blanche Lucile	Md.	Bradford, Gordon	N.Y.
B.S. 1943, University of Maryland		Bradford, John	Va.
A.M. 1946, Columbia University		Bradford, Ralph Gordon	Va.
Bowler, John Andrew, Jr.	D.C.	Bradford, William Robert	Md.
B.S. 1948, The George Washington		B.S. 1946, The George Washington	
University		University	
Bowles, Joseph Luckett	D.C.	Bradley, Frances Anne	Va.
Bowling, Benjamin Carnegie	Va.	Bradley, Jack Huron	Fla.

Bradley, John Graham	Md.	Brearley, Grace Lady	D.C.
Bradley, John Grover	Nev.	Breazale, James Allen	Mo.
Bradley, Mary Katherine	Va.	Brecht, Harold Marvin	Md.
Bradley, Robert Bell	D.C.	Breck, John Robert	D.C.
B.S. 1948, University of Maryland		Breeding, Robert Burton	D.C.
Bradley, Sally Phelps	D.C.	B.S. 1944, University of Kentucky	Mass.
Bradley, William Orlando	Nev.	Breen, Irvin J.	
Bradshaw, Anne Sheevell	Pa.	A.B. 1948, Harvard University	D.C.
Bradt, Joseph V.	Va.	Breen, James F.	Va.
Bradway, Malcolm Strode	Ind.	Breen, James Michael	N.Y.
B.S. in M.E. 1948, Purdue University		Brees, Beatrice Ruth	D.C.
Brady, Neal Caldwell	Calif.	Breeskin, Sol Daniel	Calif.
B.S. 1947, Western Reserve University		Bregman, Herbert Marvin	Ind.
Brady, Thomas Anthony	Mo.	Brehm, Theodore Louis	
Bragan, Richard Larry	Md.	A.B. 1948, The George Washington University	N.D.
Braddon, Kerlin Joseph	Tex.	Breitung, Amelia	D.C.
LL.B. 1934, Oklahoma City University		Bremer, Frederick Godfrey	D.C.
Brager, Miriam	Iowa	Brendler, George	N.J.
A.B. 1936, Grinnell College		Brennan, Henry Stephen	N.Y.
Bragg, Ernest Carrington	Va.	Brennan, Francis Xavier	Va.
Brabin, Frederick Arnold	D.C.	Biennan, George Francis	Pa.
Brain, William Herbert	Ill.	Brennan, James Joseph	Va.
B.S. 1944, University of Illinois		Brennan, Robert James	D.C.
Brake, Eugene	W.Va.	Brennan, Sally McLain	Md.
Brame, Oleta	Fla.	Brenneman, Melvin Luther	D.C.
Bramlette, Lee Clinton, Jr.	Tex.	Brenner, Esther Ruth	Md.
Bramow, A. Stanley	D.C.	Brenner, Sonia	
B.S. 1946, Virginia Polytechnic Institute		B.S. 1930, State Teachers College, Kansas City, Mo.	Va.
Bramow, Alvin	D.C.	Brentlinger, John Weeks	D.C.
Branchi, Titus	D.C.	Bresh, William Murray	
Brand, Albert William, Jr.	D.C.	A.B. 1928, Franklin and Marshall College	D.C.
Brand, John Sibley	D.C.	Breslauer, Ruth Cooper	
A.B. 1947, University of North Carolina		B.S. 1945, The George Washington University	Colo.
Brand, Paul Joachim	N.Y.	Breslaw, Joseph	
B.S. 1941, New York University		B.S. 1946, University of Notre Dame	Va.
Brandenburger, Elise Ann	Va.	Brennahan, Michael Andrew	Ind.
Brandon, Walter Bethune	Mich.	Bresler, Wilson Kress	N.Y.
B.S. 1941, United States Naval Academy		Breuer, Alexander	Va.
Brandt, Jean	D.C.	Brew, Eleanor M.	N.Y.
Brandt, John N.	Mo.	A.B. 1943, Hunter College	Art.
B.S. in C.E. 1931, University of Kansas		Brew, Eugene Lawrence	Md.
Brannon, Joan Virginia	D.C.	Brewer, Bobby Lee	Va.
Brant, Mary F.	Pa.	Brewer, George Weldon	N.Y.
Brantley, Jac Vernon	Ala.	Brewer, Glenna Faye	D.C.
A.B. 1911, Howard College		Brewer, Joseph Daniel	
Brantley, James Cranford	D.C.	Brewer, Robert George	Md.
B.B.A. 1947, University of Georgia		A.B. 1948, Hamilton College	D.C.
Brantley, Walter Frederick	Md.	Brewster, Daniel Baugh	Md.
Brasfield, Harold	Ala.	Brice, Lawrence Etheridge, Jr.	
A.B. 1934, Birmingham-Southern College		Bride, Crescent Joseph	Va.
Brassel, William Samuel	D.C.	B.S. 1930, University of Maryland	Ky.
Brasted, Donald More	Va.	Bridge, Edward William	D.C.
B.S. 1943, The George Washington University		Briggs, Francis Gifford	
Brastow, Jerome Durreya	D.C.	Briggs, Hazel Olive	Va.
Braswell, Hiram Eugene	N.C.	A.B. 1937, University of Washington	N.C.
Braush, Frank Charles	D.C.	Briggs, James Philip, Jr.	
Braun, Dean Francis	D.C.	B.S. 1947, Georgetown University	Va.
B.S. 1941, Bradley College		Briggs, Lee	Conn.
Brauner, Dorothy Caroline	Md.	A.B. 1931, Carleton College	Va.
Brauning, Helen Jane	D.C.	Briggs, Robert Oliver	Va.
Brawley, Hiram Wilks	S.C.	Briggs, Russell Wilfred	Va.
Brawner, Edgar Newlon	Md.	Brigham, Erwin Risley	Iowa
Bray, Lucile Keeton	Miss.	Bright, Evelyn Martha	Md.
Breach, John Olaf	Va.	Briley, Frances Elaine	
		Brilhart, Gladden Loats	Md.
		B.S. in M.E. 1943, Duke University	Mo.
		Brill, Edward Pope, Jr.	N.Y.
		Brill, Elouise Jean	
		Briller, Shirley Estelle	

Students Registered

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Brimer, Alan Anthony	Md.	Bronaugh, Alfred Taylor	D.C.
Brimer, Robert Fay, Jr.	N.Y.	B.S. in L.L. 1939, The George Washington University	D.C.
Brimmield, Enid Joyce	N.Y.	Bronaugh, John	D.C.
Brimley, Ralph F. W.	N.C.	B.S. in M.E. 1947, Virginia Polytechnic Institute	D.C.
B.S. 1928, North Carolina State Teachers College		Bronstein, Max Wilfred	N.Y.
A.M. 1940, University of North Carolina		Brook, Henry Arnold	Md.
Brinson, William Oliver	Md.	Brooks, Charles Grunden	
Brinks, Henry Luke	Ill.	A.B. 1927, Western Maryland College	N.Y.
A.B. 1948, Wheaton College, Ill.		Brooks, Charles Kenneth	D.C.
Brinks, Joan Oliver	D.C.	A.B. 1948, The George Washington University	D.C.
Brinks, Walter Joseph	D.C.	Brooks, David	Ga.
B.S. 1943, Georgetown University		Brooks, Dorothy Conoley	Conn.
Brinson, Luth	Tex.	B.S. 1945, Georgia Teachers College	N.Y.
Brinson, Milton Wilkerson	N.C.	Brooks, Glenn Lorraine	N.Y.
Brinkley, Austin Francis, Jr.	Va.	Brooks, Harrison Morton, Jr.	D.C.
Brinkman, Joseph Francis	Va.	B.S. 1946, Wheaton College, Ill.	D.C.
A.B. 1947, L.L.B. 1948, The George Washington University		Brooks, Joseph James	D.C.
Brissay, Sue Lenoire	D.C.	B.S. 1947, Purdue University	D.C.
Brissel, Ethel Cleo	Colo.	Brooks, Lewis William	Va.
Brissot, Charles Edwin	Md.	Brooks, Nellie Walker	Kans.
Bristow, John Wesley	Calif.	Brooks, Philip Henry	D.C.
Bristow, Joseph Quayle	Va.	Brooks, William Bernard, Jr.	N.Y.
L.L.B. 1941, Southeastern University		Brooks, William I.	
Britt, Ann M.	Ind.	B.S. 1943, Brooklyn College	Va.
Britt, John Francis Xavier	N.Y.	Brooks, William Teller	Va.
A.B. 1942, A.M. 1946, The George Washington University		Bronseau, Reginald George	
Britt, Morton Luther, Jr.	Va.	L.L.B. 1941, Northeastern University	
B.S. in Ch.E. 1948, University of North Carolina		Brown, John Oliver	Va.
Brett, Randolph	N.C.	Brouder, Herman Moseley, Jr.	Md.
Britt, Severine Hansenne	Va.	Brown, Anne Marie	Va.
Britt, Theodore Cleveland	Va.	Brown, Alice Knowles	D.C.
Britton, Wendell Hankel	N.J.	Brown, Anna Mae Lisle	D.C.
A.B. 1943, Union College		Brown, Benjamin Franklin	D.C.
Britton, Edward Bowles	Md.	Brown, Bertha	Va.
Brode, Damon Ladd, Jr.	N.C.	Brown, Betty Gene	D.C.
Brown, Bette Jean	Mont.	Brown, Billie	Md.
Bruton, Jessie Lane	D.C.	Brown, Charles Ede	
A.B. 1945, Ohio Wesleyan University		B.S. 1947, University of Maryland	D.C.
Bruton, Keith George	D.C.	Brown, Charles Richard	Va.
Bruton, Ronald LeRon	Va.	Brown, Clifford M. Shaw	D.C.
Brown, Cecil Vernon	Tex.	Brown, Christopher Price	D.C.
Brown, Henry Thomas, Jr.	Fla.	Brown, Curtis Leslie	D.C.
B.S. 1945, University of Florida		Brown, Daniel	
Broberg, John Bennett	D.C.	A.B. 1948, The George Washington University	
Brown, Francis Joseph	Pa.	Brown, Dennis David	N.I.
Brown, Josephine Lillian	D.C.	Brown, Donald Arthur	D.C.
Brown, Ava Nell	Va.	Brown, Doris Bluebona	N.C.
Brown, Xavier Martin, Jr.	N.C.	Brown, Edward Luke	Pa.
Brown, Harwood Carlton	Va.	A.B. 1948, Muhlenberg College	N.C.
Brown, Marion Robert	D.C.	Brown, Elsie	
A.B. 1947, Catawba College		A.B. 1929, Meredith College	D.C.
Brodahl, Raymond Gilbert	D.C.	Brown, Elsie Mae	N.Y.
B.S. 1945, Iowa State College		Brown, Emma Elise	
Broderick, James Duane	Ind.	A.B. 1924, A.M. 1927, University of Colorado	
Brodeur, Henry Charles	Conn.	Brown, Frederick William	Va.
Brodeur, Isabel Ann	Mass.	B.S. 1948, United States Naval Academy	Va.
Brodie, Loy Hall	D.C.	Brown, George Edward	
Brodnan, Betty Jane	W.V.	B.S. in Ed. 1940, State Teachers College, Fair Grove, Wis.	
Brodsky, Herman	N.Y.	M.S. 1941, University of Colorado	N.Y.
Brody, Alvin	D.C.	Brown, Harold	D.C.
Brody, Arthur Lionel	N.Y.	Brown, Harold Kent	Ill.
Brody, Leonard Harry	N.Y.	Brown, Helen Whiteside	
Brodv, Richard Harvey	N.I.	A.B. 1946, Vassar College	
Brown, George William, Jr.	Mass.		
Brown, Joseph Godfrey	D.C.		
Brown, James Lamar	Ga.		
Bromer, Louis	N.Y.		
Bromley, Wayne Leon	D.C.		

Brown, Herbert			
B.S. 1936, College of the City of New York			
Brown, Hollis Booth	D.C.		
Brown, Imogene Elizabeth	Va.		
A.B. 1931, East Central State College			
Brown, Jacob Embree	Md.		
Brown, James Clinton	N.Y.		
Brown, James Grady	Md.		
A.B. 1948, The George Washington University			
Brown, James Robert	D.C.		
Brown, Jane Desloge	Miss.		
A.B. 1942, Maryville College			
Brown, Joseph Sessford	Kans.		
A.B. 1947, University of Kansas			
Brown, Josephine Berlinger	D.C.		
Brown, Kenneth Ray	D.C.		
Brown, Laurence Ray	Colo.		
Brown, Lawrence Edmond	Va.		
Brown, Lee Berry	Md.		
Brown, Lewis Donald	W.Va.		
Brown, Lillian Belle	Va.		
B.S. in Ed. 1927, University of Nebraska			
Brown, Lois May	D.C.		
Brown, Louis	Ohio		
A.B. 1941, B.S. in Ed. 1941, University of Akron			
A.M. 1943, University of Rochester			
Brown, Lucile Curtis	D.C.		
Brown, Lucy Elizabeth	D.C.		
Brown, Martin	N.Y.		
Brown, Martin John	Ark.		
B.S. in Ch E. 1948, Purdue University			
Brown, Maude D.	Kans.		
B.C.S. 1946, Columbia University			
Brown, Merrill Reynolds	Va.		
Brown, Milton Henry	Pa.		
A.B. 1937, University of Pittsburgh			
Brown, Minnie Ray	D.C.		
Brown, Oril Irene	D.C.		
B.S. 1930, Northwestern University			
Brown, Patricia Louise	Va.		
Brown, Patsy Mae	D.C.		
Brown, Paul Ambrose	D.C.		
Brown, Raymond	D.C.		
Brown, Richard Allen	D.C.		
Brown, Robert	N.C.		
B.S. in C.E. 1926, University of North Carolina			
Brown, Robert Nelson	Calif.		
Brown, Robert Raymond	Ill.		
B.S. in M.E. 1942, Purdue University			
Brown, Robert William	Md.		
Brown, Roland Harry	Va.		
Brown, Ronald Lawson	Va.		
Brown, Roy Carol	S.D.		
Brown, Russell Martin	Md.		
Brown, Sheldon Willis	Calif.		
B.S. 1932, United States Naval Academy			
Brown, Stanley Louis	Md.		
Brown, Thomas Cameron	D.C.		
Brown, Virginia Geraldine	D.C.		
Brown, Virginia Zerkayde	Va.		
Brown, Webster Emerson	Va.		
Ph.B. 1934, Muhlenberg College			
Brown, William Leon	Va.		
B.S. 1931, East Central State College			
Browne, Gordon Scott, Jr.	Pa.		
Browne, Harry L.			N.Y.
Brownell, Gwenda Ellen			Iowa
Brownfield, Marilyn Ruth			D.C.
Brownholtz, William Walter			Pa.
Browning, Francis Gerard			Md.
Browning, John Barnett			N.J.
B.S. 1943, University of Alabama			
Browning, Norman Bottger			D.C.
A.B. 1940, University of Delaware			
Browning, Paulus Powell, Jr.			D.C.
B.S. 1941, University of Pennsylvania			
Brownley, John Kenneth			D.C.
Brownson, Ernest Maitland			N.J.
Brownson, Robert Henry			Va.
B.S. 1948, John Carroll University			
Brownstein, Herman			N.Y.
Broy, Anne Norton			Va.
A.B. 1948, The George Washington University			
Broy, Beverly Hite			Va.
Broy, James William			Va.
Broyles, Walter Leon			Va.
Broz, Richard Francis			D.C.
Brozick, Jean Mary			Va.
Bruce, Charles Warren			Mass.
Bruce, Clayton Roy			D.C.
B.S. 1945, University of Pittsburgh			
Bruce, James Crawford			D.C.
Bruce, Leslie Combs, Jr.			Conn.
Bruce, Richard Lewis			Md.
B.S. 1947, University of Maryland			
Bruce, Sara Anne			S.C.
B.S. 1931, Coker College			
M.S. 1943, University of Tennessee			
Bruce, Tracey Kirtz, Jr.			D.C.
Bruce, William Averett			Okl.
Bruce-Briggs, Florence James			D.C.
Bruchie, Robert Joseph			D.C.
Bruckner, Benjamin Harry			N.Y.
A.B. 1943, Columbia University			
Bruckner, Raymond Lawrence			Mont.
Brudo, Charles Salomon			Wash.
Brugioni, Dino Anthony			D.C.
A.B. 1947, A.M. 1948, The George Washington University			
Bruin, Alice Amelia			D.C.
Bruin, Edith Helen			Va.
Bruinback, Frances Smither			Va.
Bruhl, Charles			D.C.
Bromfiere, Donald Edward			D.C.
Brunauer, Sander			Va.
Brunner, Grace Elizabeth			Va.
Brunner, Gerti Landauer			
A.B. 1940, University of California			
Bruns, Katherine Vivian			N.Y.
Brusiloff, Leova			Md.
Bruskin, Leo			Conn.
Bruss, Otto Henry			Va.
Brust, George A.			Md.
Buvere, Paul Tulane			D.C.
A.B. 1910, Princeton University			
M.D. 1935, University of Chicago			
M.P.H. 1942, Yale University			Va.
Bryan, James Edward			
B.S. 1944, M.S. 1946, Virginia Polytechnic Institute			
Bryan, Jean			Ark.
Bryan, Jean Beverly			D.C.
Bryan, Kit			N.C.
R.E. 1911, M.S. 1919, North Carolina State College			
Bryan, Naomi Helen			D.C.

Bryan, Raymond Joseph	D.C.	Bullough, John Frank	Md.
Bryan, Sonya Elaine	D.C.	Bulow, Paul Erich	Va.
Bryan, Truman Grove	D.C.	Bultman, John Dale	Ill.
Bryant, Fred Webber, Jr.	Minn.	Bumer, Charles Theodore, Jr.	Va.
Bryant, Horace Andrew	D.C.	A.B. 1947, Cornell University	
Bryant, Jay Clarke	Md.	Bumgardner, Edward Larrick	Va.
B.S. 1932, Pennsylvania State College		A.B. 1948, The George Washington University	
Bryde, Georgia Rea	Md.	Bumgardner, Everett Franklin	D.C.
Bruzowski, Edmund	Mass.	Bushong, Delbert Lee	Va.
Bucci, Dominick Anthony	N.J.	Burch, John Sever	Va.
Bucchi, Charles Huntington	Md.	Bundock, John Paul	Ky.
Buchanan, James Allison, Jr.	Md.	B.S. in F.E. 1948, Tufts College	
B.S. 1944, Northwestern University		Bundock, Nancy Elizabeth	Ky.
Bushman, Katherine Donnell	Ark.	Bunevich, Irving	N.J.
A.B. 1936, Tulane University		B.S. 1934, United States Naval Academy	
Buchanan, Robert Alexander	Md.	LL.B. 1940, The George Washington University	
Bucher, Frances Virginia	Iowa		Ill.
Buchsbbaum, David Jule	N.J.	Bunker, Dorothy E.	
Buck, Barbara Lou	Va.	A.B. 1928, Park College	Md.
Buck, Dudley Allen	Calif.	Bunker, Grace Isabella	Md.
B.S. in E.E. 1948, University of Washington		Bunker, Joseph Baldrige, Jr.	Tex.
Buck, Fred Everett	Va.	Bunn, David Armstrong	
Buck, Leila Johnson	D.C.	A.B. 1947, Texas Christian University	
Buck, Samuel Otho	D.C.	Bunn, Virginia Mary	Tenn.
Buckberg, Morton L.	D.C.	Bunnell, Mabel Angela	D.C.
Buckley, Betty Jean	D.C.	Bunting, Clyde Ellis	D.C.
Buckley, Daniel John	D.C.	Bunting, Warren John	D.C.
Buckley, Frank Lawrence	D.C.	Bunyes, Walter Clifford	Tex.
Buckley, Margaret Ellen	D.C.	Buol, Laura, Belle	N.Y.
Buckley, Ralph Edward	Va.	Burak, Hugh	Pa.
B.S. 1938, Virginia Polytechnic Institute		Burak, Stanley	Md.
Buckley, Robert Baldwin	Wis.	Burbage, Mary Lou	Md.
Buchman, William Boyd	D.C.	Burch, Douglas Harman	Va.
B.S. 1947, University of Maryland		Burch, Jacqueline Duane	D.C.
Buckner, Thelma	D.C.	Burch, Patricia Louise	D.C.
Buckner, Wilma M.	Mo.	Burcham, John Bartlett, Jr.	N.J.
Buckner, William Coles	Mass.	Burchard, Kathryn Anne	N.J.
B.L. 1941, Joel	D.C.	Burda, Michael	D.C.
B.S.S. 1918, College of the City of New York		Burdett, Melvin	Ala.
Budke, Harriet Louise	D.C.	Burdette, Ernest Linwood, Jr.	D.C.
A.B. 1948, Wells College		Burdsall, Lorna Nell	Va.
Budney, Stephen	N.Y.	Burford, Frank Page	D.C.
A.B. 1937, Bowdoin College		Burger, Joel Arthur	N.Y.
Budock, Leonard Edmund	Pa.	Burger, Murray	
Bude, Henry Robert	Mass.	B.M.E. 1942, New York University	R.I.
Buee, Emily Josephine	N.Y.	Burgess, Barbara Ann	D.C.
Budler, Mildred Elaine	Minn.	Burgess, Eileen Elizabeth	D.C.
Buehle, Cyril Anthony	N.Y.	Burgess, Hazel E.	Mich.
Buell, Arthur Hyde, Jr.	Va.	A.B. 1942, University of Michigan	
Buell, Elizabeth	Ill.	Burgess, James Riley, Jr.	Mich.
Buell, Joseph Whitman	Md.	A.B. 1941, Michigan State College	
Buerge, Mary Lou	D.C.	Burgess, James Thomas	D.C.
Bugalla, John Anthony	N.H.	Burgess, Mary Ann	D.C.
Bull, John Maurice	I.C.	Burghardt, Henry Hebert	D.C.
Bushman, Lloyd William	Va.	Burham, Cynthia Constance	D.C.
A.B. 1930, A.M. 1941, Washington University		Burham, Priscilla Prudence	D.C.
Bulatin, Natalie	D.C.	Burk, Paul William, Jr.	Va.
Bullain, Frank Lyver	Va.	Burk, Paula Fern	D.C.
A.B. 1941, LL.B. 1945, Baylor University		Burke, Leon Harry	D.C.
Bull, Barbara Ann	Ind.	Burke, Calvin Roscoe	D.C.
B.S. in Ed. 1944, University of Miami		Burke, James Freeman	Md.
Bulla, William Lawrence	D.C.	Burke, James Lawrence, Jr.	Va.
Bulluck, David Keldie	N.I.	Burke, John Edward	Va.
Bulluck, Anne Marie	D.C.	Burke, John Grant	Va.
Bulluck, Barbara Ann	Va.	Burke, Julian Thompson	
Bulluck, Frederick Allen	D.C.	B.S. 1947, United States Naval Academy	
Bulluck, Theodore	D.C.	Burke, Kenneth Stanley	D.C.
		Burke, Mary Reynolds	N.I.
		A.B. 1942, University of Georgia	

Cadow, Dorothea Mathilda	D.C.	Cameron, Margaret Lillian	N.C.
Cady, Faith Lucille	N.Y.	Cameron, Richmond, Jr.	N.Y.
A.B. 1938, College of St. Rose		Cameron, William Kimmel	Ohio
B.S. 1940, Simmons College		A.B. 1948, The George Washington	
Caceras, Marion Frances	Mass.	University	N.Y.
Cafferty, Patrick Joseph	D.C.	Camba, Jack	W.Va.
Caffery, Helen Mead	Ga.	Cammack, T. Emerson	
Cafritz, Frank Albert	Wis.	B.S.C. 1940, A.M. 1941, University	
Cafritz, Isabel	D.C.	of Oklahoma	Va.
Cafritz, James Edward	D.C.	Cannier, Margaret Ann	
Cagan, Leon Howard	Mass.	B.S. 1948, The George Washington	
Cagle, Anna Lenora	Ga.	University	Md.
Cahan, Jules Isaac	D.C.	Camp, Glen Darwin	Md.
Cahn, Frank Bernard	Md.	Camp, Patricia Ann	Md.
Cahoon, Lillian Adelaide	Mass.	Camp, Victor William	D.C.
Cahoon, Lynda Lee	Va.	Campagna, Jonathan Edward	D.C.
Cain, George Stephen	D.C.	Campagna, Joseph Henry	Va.
Cain, John Wallace	Va.	Campbell, Mrs. Elizabeth	D.C.
Cain, Thelma Shirley	W.	Campbell, Arthur Bernard, Jr.	Va.
Cairns, Eldon James	Md.	Campbell, Barbara	D.C.
A.B. 1947, A.M. 1948, University		Campbell, Charles Argyll	D.C.
of California at Los Angeles		Campbell, Charles Edward	Ky.
Cajigas, Paul Anthony	D.C.	Campbell, Charles Edwin	Va.
Caldwell, Betty Jean	Va.	Campbell, Charles Frederick	Mass.
B.S. 1945, Kansas State College of		Campbell, Clarence Henry	Md.
Agriculture and Applied Sciences	Utah	Campbell, Donald Alfred	D.C.
Caldwell, Callia A.	D.C.	Campbell, Donald Herman	Conn.
Caldwell, Edward Richard	D.C.	Campbell, Donald Harb	Pa.
Caldwell, John Thomas	Va.	Campbell, Dona Lorraine	R.I.
Caldwell, Margaret	Tenn.	Campbell, Francis Walter	
Caldwell, Randolph Foster, Jr.	Ind.	B.S. 1946, Rhode Island College of	
Caldwell, Wilfred Gene		Education	N.C.
B.S. in E.E. 1945, M.S. in E.E.		Campbell, Francis Wilson	
1948, Purdue University	Va.	B.S. in E.E. 1947, University of	
Caldwell, William Harold, Jr.	W.Va.	North Carolina	D.C.
Calhoun, William Harper	Va.	Campbell, George Vincent	Ariz.
Calkins, Constantia H.	Mass.	Campbell, James Franklin	D.C.
Callaghan, Eugene Francis		Campbell, James Joseph	Va.
B.S. 1944, United States Military		Campbell, James Richard	
Academy	N.Y.	B.S. in E.E. 1947, Ohio Northern	
Callahan, John Francis	Pa.	University	Md.
Callahan, Joseph Robert	Va.	Campbell, John Elmer	D.C.
Callahan, Marie Sue	Tenn.	Campbell, John Howard	D.C.
Callahan, Martha Anne	Md.	Campbell, John Keith	W.Va.
Callander, Ann Deeley	Calif.	Campbell, Joyce Sorelda	Va.
Callander, Chester Lee		Campbell, Louis Collins, Jr.	Va.
A.B. 1940, University of California		Campbell, Margaret Elizabeth	D.C.
Callander, Vincent Irving	N.I.	Campbell, Mildred Ann	D.C.
Callas, Elizabeth E.	D.C.	Campbell, Nancy Ruth	Va.
A.B. 1946, Lenoir-Rhyne College		Campbell, Palmer	D.C.
Callaway, Charles Calvin	Okla.	Campbell, Patricia Margaret	Pa.
Callaway, Joseph Easterling	Ark.	Campbell, Paul Calvin	
Callaway, Mariella McCown	Okla.	A.B. 1948, M.S. in Ed. 1949,	
Callagary, Claude Leon	Md.	Pennsylvania State College	Va.
Callow, John Edgar	D.C.	Campbell, Robert Alexander, Jr.	D.C.
Callow, John Henry	D.C.	Campbell, Srouse, Jr.	
Calomiris, Willie Donald	D.C.	A.B. 1947, Duke University	Tenn.
Calow, Paul Emerson	D.C.	Campbell, William Neil	Md.
B.S. 1944, University of Minnesota		Campbell, William Robert	
Calvin, Charles Joseph	Va.	B.S. 1947, University of Maryland	
Calvo, Mary Alicia	D.C.	Campbell, Yolanda Agosti	D.C.
Camacho-Torres, Gilberto	Puerto Rico	Campion, Harold Joseph	Iowa
Camibouri, Marie-Louise Antoinette	D.C.	Campo, Victor Charles	D.C.
Camby, John Joseph	Pa.	Campodionico, Clelia Edith	Panama
B.S. 1941, Carnegie Institute of		Canada, William James	N.Y.
Technology		B.S. 1946, Fordham University	
Camelin, Kenneth	Colo.	Canafax, Everett Daniel	Ky.
Camelio, Joseph Albert	N.Y.	Canavan, John James	Fla.
Cameron, Archie Enos	D.C.	Canby, Medford Parr, Jr.	D.C.
Cameron, Betty Jean	D.C.	Cannex, William Molyneux	D.C.
Cameron, Frank Conevery	D.C.	Cannon, John Andrew	Md.
A.B. 1933, University of Michigan		Cannon, Walter Robert	D.C.
Cameron, John William	D.C.		

Canter, Lillian	N.Y.	Carpenter, Richard Edison	Md.
A.B. 1940, Brooklyn College		A.B. 1935, Dartmouth College	
Cantini, Humbert John	N.C.	Carpenter, William Otis	Ky.
Cantley, Thomas William	S.C.	Carpino, Salvino Francis	Mass.
Cantor, Israel	N.Y.	Carr, George Lafayette	Ga.
A.B. 1946, Brooklyn College		Carr, James Harry	N.Y.
Cantor, Neil Jay	D.C.	B.S. 1938, Columbia University	Calif.
Cantrell, James Muir	D.C.	Carr, Robert Addison	
Cantrell, Jimmy Jean	D.C.	B.S. 1932, Ohio State University	
Cantrell, Lawson James, Jr.	D.C.	Carr, William Ellsworth	Md.
Cantwell, William James	N.Y.	Carr, William Hoyt	S.C.
Canty, Owen Francis Joseph	D.C.	B.S. 1940, Furman University	
Canulla, Guido John	Mass.	Carr, William Larwill	Ohio
Capestany, Roberto Alfonso	Puerto Rico	Carrara, Daniel Anthony	N.Y.
A.B. 1948, Polytechnic Institute of		Carrasquillo, Ana	Puerto Rico
Puerto Rico		Carrick, Lester Forest	D.C.
Capizzi, Edward Joseph	Pa.	Carrig, Rome John	D.C.
Caplan, Dorothy Hulda	D.C.	Carriker, Guy Homer	D.C.
Caplan, Leon Sandler	D.C.	B.S. 1942, University of Texas	D.C.
Capes, Willis Harry	Calif.	Carrillo, Maria Manuela	
B.S. in Ed. 1946, University of		A.B. 1939, University of Puerto Rico	Iowa
Oregon		Carroll, Charles Francis	N.Y.
Capp, John Walter	N.J.	Carroll, Douglas Stewart	Tenn.
Cappelen, Louise Anna Munthe	D.C.	Carroll, Mary Josephine	
Caprow, Janine Marie	D.C.	A.B. 1931, Maryville College, Tenn.	
Carabas, Frank	N.Y.	A.M. 1948, The George Washington	
Caracciolo, Francis Samuel	D.C.	University	
Carau, Frank Louis, Jr.	Va.	Carroll, Norman Sellman	Va.
Carballo, Caridad Mercedes	West Indies	Carroll, Thomas Wyan	N.Y.
Carbone, Hubert Louis	N.Y.	Carroll, Virginia D.	Ala.
Cardano, Ferdinand Sebastian	D.C.	Carsey, Juanita Anderson	Fla.
Carey, Marjorie Lucia	Mass.	Carson, Arthur Naedle	D.C.
Carland, Eugene	N.C.	B.S. 1944, California Institute of	
Carlin, Doris Letitia	D.C.	Technology	
Carlin, John Francis	Pa.	Carson, Elmer Jackson	Va.
Carlson, Betty Lou	Va.	B.S. 1930, A.M. 1932, Columbia	
Carlson, Herbert Donald	D.C.	University	D.C.
Carlson, Howard Kenneth	D.C.	Carson, Martha Yarrington	D.C.
Carlson, Jeanine Elizabeth	Iowa	Carter, Charles Carroll	Ga.
Carlson, Randolph Adair	D.C.	Carter, Cranford	Ill.
A.B. 1948, Brown University		Carter, Darrell Denmeade	Ill.
Carlson, Theodora Elizabeth	Nebr.	Carter, Doris M.	Va.
A.B. 1930, Nebraska State Teachers		Carter, Elizabeth Carsey	Va.
College, Wayne		Carter, Ethel Robinson	Ohio
Carlton, Harry Nelson	D.C.	Carter, George Washington	
Carlton, Virginia May	Mass.	A.B. 1948, The George Washington	
Carmichael, William Edward	Va.	University	
Carmine, Walter	Va.	Carter, Harold Martin	Va.
Carne, William Benton	Tenn.	B.S. 1943, Roanoke College	Va.
B.S. in B.A. 1943, University of		Carter, Henry	
Tennessee		A.B. 1917, A.M. 1920, Yale University	
Carneal, Owen Haskins	Va.	L.L.B. 1941, The George Washington	
Carnes, Raymond Eugene	Md.	University	
A.B. 1946, The George Washington		Carter, Jack	Va.
University		Carter, Jennie Mahin	Md.
Carney, James Wayne	D.C.	B.S. in Ed. 1941, University of	
Carney, John Edward	D.C.	Louisville	
Carnev, Mary Lindsay	Va.	Carter, Kenneth Liverett	Conn.
Carnivale, Caroline	N.Y.	Carter, Lynn Edwin	D.C.
Caro, Joseph Henry	D.C.	Carter, Marilyn	D.C.
B.S. 1943, Northeastern University		Carter, Neville Westmore	Va.
Carol, Sybil Phyllis	N.Y.	Carter, Peyton Franklin	Okla.
Caron, Anna Mae	Ohio	Carter, Robert Irving	N.Y.
Carothers, Constance Olive	Mass.	Carter, Sidney	
Carpenter, Anita Jean	Va.	B.S. in Ch.E. 1942, College of the	
Carpenter, Caleb Fred	Okla.	City of New York	
A.B. 1948, The George Washington		Carter, Thomas Victor	Va.
University		Carter, William Joseph	D.C.
Carpenter, Edwin John, Jr.	D.C.	Carteret, George Mason	N.Y.
Carpenter, Gladys Rosemary	Fla.	Carron, Thomas Joseph	Mass.
Carpenter, Joel Victor	Va.	Carrili, Leonard	N.Y.
Carpenter, Marie L.	Ark.	Cassano, Anthony John	
		Caruso, Lawrence Robert	

Caruthers, Chester Preston	Va.	Cavitt, August Loren, Jr.	La.
Caruthers, Theresa Carolyn	Va.	Cawley, Eugene Horan	D.C.
Carvalho, Nysa Wanderley	D.C.	Cawood, Mary Alice	Md.
Carver, William Franklin	Conn.	Cava, Albert, Jr.	Md.
Cary, George Lee, Jr.	Md.	Cearly, Landis Powell	N.C.
Casalet, John Peter	Calif.	Cease, Lysle Willard	D.C.
Casanova, Arturo Ynocencio, III	D.C.	B.S. 1926, United States Naval Academy	
Case, James Sanford	Va.	Cederstrand, Nettie	D.C.
Caselon, Paul Nicholas	Ill.	Centor, Fred	D.C.
Casera, Armando	Va.	Colla, Roland Peter	Mich.
A.B. 1941, Colgate University		Cesda, James John	Md.
A.M. 1947, New York University		Cerne, Rose Ann	Mo.
Casey, Ann Donnelly	Oreg.	Cerra, Arthur Joseph	N.Y.
Cases, Edward Riley	N.Y.	Cerstvik, Milan Stephen	N.J.
Cases, John Brendan	D.C.	Cervantes, Robert Martinez	D.C.
Cases, John Hugh	Va.	Ceschin, August John	Pa.
Cases, Patricia Marguerite	D.C.	Chabinak, Lillian Hutchison	Va.
Cases, Thomas Joseph	Mass.	B.S. 1930, State Teachers College, Salisbury, Md.	
B.S. 1923, United States Naval Academy		Chacalos, Sophia Z.	W Va.
M.S. 1930, Columbia University		Chaconas, Frances	D.C.
Cash, James Barrett, Jr.	Ark.	Chaconas, Peter Steven	D.C.
Cashman, Robert William	D.C.	Chacos, Anthony	D.C.
Caslin, James Michael	D.C.	Chacos, Maria George	D.C.
Cason, James H.	La.	Chacos, Nicholas George	D.C.
Cass, Miriam	D.C.	Chad, Seymour Walter	N.Y.
Cassedy, Vesta	Md.	A.B. 1948, University of California at Los Angeles	
B.S. 1942, University of Maryland		Chadderdon, Wallace Henry	Va.
Cassell, Frederick Henry	N.Y.	Chadduck, Walter Preslev	D.C.
Cassel, James M.	Md.	Chadwick, William Edward	Va.
B.S. 1942, Washington and Jefferson College		Chaffee, Jack Dempster	Iowa
Cassell, Irving Seymour	N.Y.	Chaffin, Solomon Herman	N.Y.
Cassidy, Lewis Cochran	D.C.	B.B.A. 1946, College of the City of New York	
Cassidy, Sally Ann	Mich.	A.M. 1948, Harvard University	
Cassidy, William David	D.C.	Chakeres, Pauline George	D.C.
A.B. 1947, The George Washington University		Chakeres, Pete	D.C.
Cassity, Donn Edward	Md.	Chaffin, Seymour	N.Y.
Castillo, Jose Maria	D.C.	Chalmers, Norman Edward	Va.
A.B. 1948, The George Washington University		Chamberlain, Mabel C.	
Castle, Evelyn Starr	D.C.	A.B. 1927, Winthrop College	
Castle, John Bayne	Md.	Chamberlin, Beverly Mann	Va.
Casner, John A.	D.C.	Chamberlin, Claude Alonzo	Miss.
Castro, Anthony Joseph	D.C.	Chamberlin, Guy Wadsworth	D.C.
Caswell, Robert Little	Calif.	Chambers, Ann Douglas	D.C.
B.S. 1940, University of California		Chambers, Betty Jean	D.C.
Caswell, Ruth Virginia	D.C.	Chambers, Jay Lee	D.C.
Catalan, Elena Josefina	D.C.	Chambers, Walter Joseph	D.C.
A.B. 1942, Dunbarton College		Chambliss, Charles Edward	La.
Catalina, Stephen Patrick	D.C.	Champagne, Maurice Anthony	
Cates, Walter Clayton	Mont.	B.S. 1931, Louisiana State University	
Catey, Raymond	D.C.	Champion, Geneva L.	D.C.
B.S. 1928, University of Arizona		Chan, Arthur	Calif.
Carlett, Donald Roy	Md.	Chan, Chong Kwok	China
Carlohi, Paula May	D.C.	Chan, May	D.C.
Caton, Vernon Verbal	D.C.	Chanaka, Nicholas	D.C.
Cattabiani, Robert Matthew	N.Y.	Chaney, Anthony Nicholas	N.J.
Caulfield, Donald John	N.Y.	Chandler, Alfred White	Md.
Caulfield, Mildred E.	D.C.	Chandler, Harold	Va.
Caulfield, Samuel Joseph	Va.	Chandler, Herbert George	Nebr.
Cavanagh, Victor John	Va.	Chandler, Murray Leslie	D.C.
Cavallaro, Velma Antoinette	N.Y.	Chaney, Ina Kerby	Ola.
Cavallo, Frank Nicholas	Mass.	A.B. 1941, East Central State College	
Cavallo, Guido	Mass.	Chaney, John Lester, Jr.	D.C.
Cavanagh, John Edward	Oreg.	Chang, Chaney	D.C.
A.B. 1941, University of Oregon		Chang, Helen Demary	D.C.
Cavanagh, Thomas Edward, Jr.	Ill.	A.B. 1911, Wheaton College	
Cavanaugh, Vincent Depaul	Pa.	B.S. 1934, M.S. 1936, Simmons College	
B.S. 1940, Pennsylvania State College			
Caviler, James Veldren	Va.		
B.S. 1934, Pennsylvania State College			

Chang, Richard I-Feng	China	Cherrett, William James	N.J.
A.B. 1943, Saint John's University of Shanghai		Cherrington, Jane Bell	W.Va.
LL.B. 1949, DePaul University		Cherry, Dorothy Mildred	D.C.
Chang, Shih Ju	D.C.	Cherry, John Claxton, Jr.	Va.
Chase, Weymer Lee	Va.	Chertoff, Mitchell	N.Y.
Chap, James John	N.Y.	Chertok, Leonard	D.C.
A.B. 1941, Bates College		Cherwek, Stanley	Mass.
M.S. 1942, Ph.D. 1934, Massachusetts State College		Chesley, Emory Willard	Va.
Chapin, Mary Charlotte	D.C.	A.B. 1948, Western Maryland College	
Chapman, Harvey Reese, Jr.	Va.	Cheslow, Ernest	N.Y.
Chapman, Claudia Beechum	Va.	B.Ch.E. 1939, College of the City of New York	
Chapman, Lee Eugene	Pa.	Chesney, Daniel Roger	D.C.
Ph.D. 1947, Clarkson College		Chesney, Richard Earl	D.C.
Chapman, Allen Dean	Va.	Chester, Annabelle Johnnie	Calif.
Chapman, Charles William	Va.	Chester, Russell Gilbert	Ohio
Chapman, Harold Graham	D.C.	A.B. 1948, Baldwin-Wallace College	
Chapman, Dorothy Abbott	Mich.	Chestnutt, Warren Lynwood	D.C.
Chapman, Edward J.	Pa.	Chew, Allen Frank	D.C.
A.B. 1939, Loyola University		Chew, Ernest Benjamin	D.C.
Chapman, James Eliot	D.C.	Chewang, Thomas Waddy, Jr.	Va.
Chapman, Jean Charlotte	Md.	Chewning, Wida Jane	D.C.
Chapman, Kathryn Dawsey	D.C.	Chichester, Sidney Tobias, Jr.	D.C.
B.S. in L.S. 1941, The George Washington University	George	Chicovsky, Marium Charlotte	D.C.
Chapman, Nelson Stockton	Md.	Chiesa, Vera Maria	D.C.
Chappel, Martha Ella	Colo.	Chieu, Bud Ming	Fla.
Chappell, Elizabeth McGaw	Tenn.	Child, Daniel Keigwin	D.C.
Chapper, Frank Morris	D.C.	Childe, Laurel	
Charles, Arbelia Mae	Va.	B.S. 1945, University of Chicago	
B.S. in Ed. 1944, Mary Washington College		A.M. 1946, Columbia University	Va.
Charnes, Leah	Pa.	Childers, Louis Edward	D.C.
Chase, George	D.C.	Chillari, Josephine Catherine	N.Y.
A.B. 1948, The George Washington University		Chillemi, Richard Leo	N.Y.
Chase, Roland Hamilton	D.C.	Chin, Harry Wing Guey	D.C.
Chase, Ruth Judith	Md.	Chin, Nancy Wong	N.Y.
A.B. 1945, The George Washington University		Chin, Richard Kwok-on	D.C.
Chasey, Harry Lewis	Va.	Chin, Robert	D.C.
B.S. in Ed. 1934, Rutgers University		Chintz, Aaron	Calif.
Chassan, Jacob	D.C.	Chinn, Howard Ernel	D.C.
B.S. 1939, College of the City of New York		Chinn, Ruby	N.J.
Chatelan, Diane Louise	D.C.	Chippman, Francis Stanton	Md.
Chatham, Elmer Albert	Va.	Chirstein, Marvin	Va.
Chatham, Elmore Ross	Tex.	Chism, Robert Loran	Va.
Chatham, Marie	D.C.	Chismar, Paul Herbert	Va.
A.B. 1947, A.M. 1948, The George Washington University		Chisenden, Joe Daniel, Jr.	D.C.
Chatnuck, Stephen	N.Y.	Chittenden, LeRoy Robert	N.Y.
Chavez, Mary Armigo	N.M.	Chiu, Shi Tim	
Checkoway, Abraham	Va.	Chick, David Jack	
Chee, Margaret Zane	Hawaii	B.S. 1948, College of the City of New York	Wis.
B.S. in Ed. 1916, University of Hawaii		Choate, Roger Sears	Pa.
Cheesman, George Leroy	D.C.	Chocola, Jack Robert	Pa.
Cheezum, Helen Alberta	Md.	B.S. 1948, West Virginia University	N.Y.
B.S. 1945, State Teacher Collene, Salisbury, Md.		Chocola, Richard Adolph	D.C.
Cheimis, Antonio	D.C.	Chorost, Helen	Maine
Chen, Irene Chieh Chi	D.C.	Choroszy, John Marjan	China
A.B. 1948, Lingnan University		Choulas, James George	D.C.
Chen, Ming	China	Chow, Bettine	D.C.
Chen, Tung-yu Jeannette	D.C.	Chramiec, Alexandra Wanda	
A.B. 1945, Manchester College		Chreiburg, Janice Angil	
Chenault, Helen Lawana	Tex.	A.B. 1947, Western Maryland College	D.C.
Chennault, Joe Young	La.	Chrisman, Melvin Lee	Pa.
Chepauskas, Vincent A.	Pa.	Christ, Christ C.	D.C.
Cbernitzky, Alvin	N.Y.	Christeller, Norman Lee	Md.
		A.B. 1943, Oberlin College	Mont.
		Christensen, Clarence Peter	
		Christensen, Earl	
		A.B. 1941, University of Montana	Mt.
		Christensen, Warren Alfred	D.C.
		Christenson, Cullen Yates	Va.
		Christenson, Donald Edward	

Christian, Leonard D.	Okla.	Clark, Belvia Elaine	Va.
Christian, Wayne Edward	Iowa	A.B. 1946, The George Washington University	
Christians, Robert Wilhelm	Ill.	Clark, Boswell Johnson, Jr.	Va.
A.B. 1938, State University of Iowa		Clark, Carolyn Lucille	D.C.
Christiansen, Fred Kjargaard	Nebr.	Clark, Charles Robert	Va.
B.S. 1937, Midland College		Clark, Charles Willard	Oreg.
Christie, Ruth	Ill.	Clark, Clara Belle	N.C.
Christie, Thomas Heroic	Va.	Clark, Donald Lewis	Va.
B.S. 1929, College of William and Mary		Clark, Donald Roy	Nebr.
Christoph, Kathryn Helen	D.C.	Clark, Edmund Berrigan	D.C.
Christopherson, Olaf Warren	Minn.	LL.B. 1949, Harvard University	
A.B. 1946, The George Washington University		Clark, Edward Francis, Jr.	N.J.
Christovich, Charles George	Pa.	Clark, Ellen Hylan	Colo.
Christovich, Stanley Martin	Pa.	Clark, Elsie Graham	Va.
Chrosos, Alexander	Pa.	Clark, Eugene Evans	Va.
Chruska, Joseph E.	D.C.	Clark, Eugene Fleming	D.C.
Chu, Eame Yun-Yun	China	Clark, Frances Elizabeth	Va.
A.B. 1945, St. Johns University, Shanghai		Clark, George Henry, Jr.	D.C.
A.M. 1948, The George Washington University		Clark, George Ordway	Va.
Chu, Euclid	N.Y.	Clark, Gwendolyn Jane	D.C.
Chu, Kuang Che	D.C.	Clark, Harry Leon	Va.
A.B. 1937, University of Political Science, Nanking, China		Clark, James Farrell	Md.
Chubb, Louise	Mo.	Clark, James Harry, Jr.	Va.
A.B. 1943, Wellesley College		Clark, James Leonard	Ga.
M.S. 1941, Washington University		Clark, Jocelyn	Fla.
Chudy, Martin James	R.I.	Clark, John Edward	Kans.
Chudzik, Adeline Celia	Va.	B.S. 1937, United States Naval Academy	
Chudzik, John Stephen	N.Y.	Clark, John M.	Maine
A.B. 1948, The George Washington University		Clark, John Robert	Md.
Chun, Chu Man	China	Clark, Judith Walker	D.C.
Church, Abrah Adelbert	Fla.	A.B. 1948, The George Washington University	
A.B. 1948, The George Washington University		Clark, Lyman Ernest	Md.
Church, Frederick Lewis	Va.	Clark, Malcolm Cameron	D.C.
B.S. in B.A. 1943, American University		Clark, Martelle Lilly	Md.
Church, Jane Otala	Va.	A.B. 1949, North Georgia College	D.C.
A.B. 1948, University of Southern California		Clark, Maurice Harrison	D.C.
Church, Joan	Md.	Clark, Maxine Willa	D.C.
Churchill, Morton Vincent	D.C.	Clark, Orla A.	Md.
A.B. 1941, The George Washington University		B.S. 1943, University of Maryland	
Chvatte, Alice	D.C.	Clark, Raymond Dykes	Va.
B.S. 1948, Wilson Teachers College		B.S. 1948, University of California at Los Angeles	
Ciarrocca, Louis, Jr.	N.J.	Clark, Richard Lowell	D.C.
Ciarrochi, Eli	Pa.	Clark, Robert Adair, Jr.	D.C.
Cifelli, Armand	N.J.	Clark, Sam Echols	Ala.
Cilento, Bob Frank	N.J.	Clark, Victoria S.	D.C.
Cimokowski, Edwin William	Pa.	Clark, William	D.C.
Cioff, John Joseph	D.C.	Clark, William Bert	Ga.
Cissel, John Patrick	D.C.	Clark, William Carl	Tenn.
Cisana, Kathleen Louise	Kans.	B.S. 1946, Cumberland University	
A.B. 1939, Maryville College		LL.B. 1944, The George Washington University	
Citrenbaum, Bernard Francis	D.C.	Clark, William Giddings	Md.
Cizauskas, Albert Charles	N.Y.	Clark, William Richard	Va.
A.M. 1945, Manhattan College		Clarke, Addison	Md.
Claett, Marshall Dement	D.C.	Clarke, Helen Berg	Va.
Clancey, John Thomas	Md.	Clarke, James Brent, Jr.	D.C.
Clancey, Robert Elliott	Mass.	Clarke, John James	Pa.
Clancy, Philip Christopher	N.Y.	Clarke, Laura Matilda	D.C.
Clapper, Finley Newell	D.C.	Clarke, Malcolm Douglas, Jr.	D.C.
Clare, James Haas	N.C.	Clarke, Peter Ethelston	D.C.
Clark, Allen Colling	D.C.	Clarke, Thomas McTyghe	Va.
		A.B. 1948, The George Washington University	
		Clark, William Garland	Va.
		A.B. 1947, B.C.L. 1948, College of William and Mary	
		Clarkson, Julia Ann	D.C.

Clary, Mary	Va.	Cobb, Arthur Howell	D.C.
A.B. 1917, College of New Rochelle		Cobb, Thomas Lambert	Mont.
Clausen, Rosemary	Ill.	Coberly, James Harold	W.Va.
Clauson, Mary Carolyn	D.C.	A.B. 1911, A.M. 1918, The George Washington University	
Clawson, Peter Carroll	D.C.		Md.
Clay, George Williams	Md.	Coblentz, Mervin	D.C.
Clay, Harry Clifton	D.C.	Coburn, Myrtle L.	Mich.
Clay, Katharine Wise	Va.	Cochran, Anne L.	
Clay, Lucas D., Jr.	Va.	A.B. 1946, Stanford University	D.C.
Clayton, Christopher Sudlow	D.C.	Cochran, Corinne Haddad	Va.
Cleary, Jeanne Audrey	D.C.	Cochran, Dean Farrington	Pa.
Cleary, Vincent Walter	Va.	Cochran, Douglas McCord	D.C.
Cleaver, George Harris	Ohio	Cochran, Hewitt	
A.B. 1941, University of Cincinnati		A.B. 1938, Yale University	Pa.
Cleaver, William Frank	D.C.	Cochran, James Franklin	
Cleckner, Marie E.	Md.	A.B. in Ed. 1948, University of Pittsburgh	D.C.
A.B. 1945, College of Notre Dame of Maryland		Cochran, Nancy Lou	N.J.
B.S. in L.S. 1947, Western Reserve University		Cochran, Robert Reid	
Cleifton, Claude Anton	Wash.	B.S. in Ch.E. 1944, Tufts College	D.C.
A.B. 1941, University of Washington	Va.	Cochrane, Frederic	N.Y.
Clemens, Charles Wesley, Jr.	Iowa	Cochrane, Harriet May	Fla.
Clemens, Elaine Estelle	D.C.	Cockrell, Lillis Walker	Md.
Clement, Charles Bennett	Md.	Codier, Ernest Oscar	Md.
Clement, James Francis	D.C.	Coe, Anne Hopton	Nev.
Clement, Mary Catherine	Va.	Coe, Conway Peyton, Jr.	Va.
Clements, Mary Will	Ark.	Coe, Nelson Webster, Jr.	
Clements, Sylvia Ileen	Iowa	B.S. in Ed. 1940, State Teachers College, Oswego, N. Y.	Va.
Clemons, James Clifford	N.Y.	Coffelt, Donald Paul	D.C.
Clerke, William Mortimer	Tenn.	Coffey, Carlton Latane	Md.
Clewlow, Carl William	Maine	Coffey, Francis Marion, Jr.	D.C.
Clifford, George Minott	Tenn.	Coffey, Phillip Max	N.Y.
Clifford, Marvin Butler	Mass.	Coffey, Richard Eugene	Tex.
Clifford, Thomas George	Tex.	Coffey, Robert Arthur	Utah
Clift, Robert Morris	Tenn.	Coffin, Barrett Franklin	Minn.
Clifton, Ernest Ridley	Ill.	Coffin, Charles Franklin	D.C.
Climpson, Harley Ronald		Coffin, James Clyde	Va.
LL.B. 1940, Washington College of Law	Ind.	Coffman, Alice Anton	Cuba
Cline, Joe Edward	Va.	Coffman, Clara Lillian	D.C.
B.S. 1948, Butler University		Cofino, Alfredo Ernesto	
Cline, June Antonia	D.C.	Coggins, John Wesley	
A.B. 1946, Roanoke College	Mass.	LL.B. 1940, The George Washington University	D.C.
Clines, Thomas Gregory	Mich.	Copswell, Raymond Louis	D.C.
Clingan, Courtenay		Cohan, Philip Cedric	D.C.
B.S. 1910, A.M. 1911, Millsaps College		Cohen, Albert Abraham	Md.
Clinkston, Philip		Cohen, Alvin Maxwell	D.C.
B.S. 1942, University of Michigan		Cohen, Bernard	D.C.
M.S. 1948, The George Washington University		Cohen, Betty Lee	Md.
Clokey, Mitchell Chase	Md.	Cohen, Donald Sidney	
Clore, Nona	D.C.	B.S. 1947, University of Maryland	Md.
Close, David Olef	N.J.	Cohen, Edwin	Va.
Close, Franklin John	N.J.	Cohen, Ernest Samuel	
Close, Marion Campbell	D.C.	B.C.E. 1918, College of the City of New York	Mass.
A.B. 1938, The George Washington University		Cohen, George	
Cloud, Albert Morgan, Jr.	Iowa	B.S. 1948, University of Massachusetts	D.C.
Cloud, Dorothy Ball	Va.	Cohen, George Joel	D.C.
Clous, Gwendolyn Ruth	Md.	Cohen, Gerald	N.Y.
Clouser, David John	Va.	Cohen, Herbert	N.Y.
Clouser, William Fleming, Jr.	Va.	Cohen, Howard Martin	
Cloutier, Rita Gertrude	D.C.	A.B. 1948, The George Washington University	N.Y.
Clover, Charles James	W.Va.		W.Va.
A.B. 1947, Shepherd State College		Cohen, Jack	Va.
Cluff, Leighton Eggeston	D.C.	Cohen, Jeanne	
Clute, Robert Eugene	Va.	Cohen, Jules	
A.B. 1947, University of Alabama		B.S. in E.E. 1938, University of Washington	D.C.
Clyde, John Francis	Conn.	Cohen, June Rae	
Clyorn, William Owen	Va.	B.S. 1945, The George Washington University	
Coalson, Thomas Ernest	Md.		
Coates, Augusta Maude			

Students Registered

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Cohen, Lawrence	N.J.	Coleman, Juliet Cox	D.C.
Cohen, Lillian Minnie	D.C.	A.B. 1927, University of Richmond	D.C.
Cohen, Marvin	Pa.	Coleman, Lillian Wissette	D.C.
Cohen, Marvin Bernstein	D.C.	Coleman, Martha Amy	D.C.
Cohen, Melvin	D.C.	A.B. 1948, University of Nebraska	D.C.
A.B. 1938, Brooklyn College		Coleman, Mary Ellen	Md.
Cohen, Morris	D.C.	B.S. 1937, Madison College	
Cohen, Paul	N.Y.	Coleman, Mary Jane	
A.B. 1932, College of the City of New York		B.S. 1940, State Teachers College, Towson, Md.	D.C.
Cohen, Ralph Irwin	Ohio	Coleman, Robert Frances	N.Y.
A.B. 1941, Washington and Lee University		Coleman, Sanford David	D.C.
Cohen, Richard Edward	D.C.	Coleman, Thomas Joseph	D.C.
Cohen, Robert Henry	D.C.	Coleman, Walter Israel	D.C.
Cohen, Rosa Naomi	D.C.	A.B. 1948, The George Washington University	D.C.
Cohen, Saul Benjamin	D.C.	Coleman, Prokopos	D.C.
Cohen, Sheldon Stanley	D.C.	Coleman, Max B.	D.C.
Cohen, William	D.C.	Coleman, Robert Wilson	D.C.
Cohn, Harold Joseph	Ohio	Colla, Mary Amelia	D.C.
A.B. 1931, Ohio State University		B.F.A. 1947, Oklahoma Agricultural and Mechanical College	Pa.
Cohn, Leonard Earl	Md.	Coller, Ada K.	
Cohn, Sylvia	D.C.	B.S. 1948, Dickinson College	D.C.
Coil, Emory Alfred	Ohio	Collet, William Anderson	Va.
Coit, Lew Garrison, Jr.	Md.	Cramer, Clyde Melvin	D.C.
Cokenias, Nicholas Trephon	D.C.	Collier, Donald	
A.B. 1941, A.M. 1948, The George Washington University		B.S. 1942, Northwestern University	N.J.
Coker, Joseph Daniel	S.C.	Collier, Edwin	Va.
A.B. 1935, A.M. 1937, The George Washington University		Collier, James Cecil	D.C.
Coker, Robert Harry	D.C.	Collier, Leon Edward	
Colaceno, Frank	Md.	B.S. in Ed. 1940, Temple University	Va.
B.S. 1940, United States Military Academy		Collier, Mabel Louise	D.C.
Coltracelo, James Michael	Va.	Collier, William Edward	Va.
Colbert, Robert Chester	Md.	Collier, William Lee	D.C.
Colburn, Paul Appleby	Md.	Collins, Charles Ernest	D.C.
L.I.E. 1942, Columbia University		Collins, James Riley	Va.
Collins, Katherine Stewart	Va.	Collins, Mary Louise	Tex.
Cole, Catherine Louise	Ind.	Collins, Charles Earl	Calif.
Cole, Charles Herbert	D.C.	Collins, Dale Edmond	D.C.
Cole, Elizabeth Trucks	Va.	Collins, George Cusker	Fla.
A.B. 1948, The George Washington University		Collins, Helen Monterey	
Cole, Fenwick Earl	D.C.	A.B. 1941, Florida State College for Women	Va.
Cole, Harold Elwood	Pa.	Collins, Henry D'Alton	
B.S. 1914, United States Naval Academy		B.S.C. 1940, University of Notre Dame	Kans.
Cole, Harry Eugene	Va.	Collins, Jack I.	D.C.
A.B. 1947, Wittenberg College		Collins, James Homer	N.C.
Cole, Marguerite E.	N.J.	Collins, John Charles	N.C.
B.S. 1944, State Teachers College, Paterson, N.J.		Collins, John Denson	
Cole, Mary Louise	D.C.	A.B. 1943, Wake Forest College	Md.
B.S. 1946, Bob Jones College		Collins, Joseph	Pa.
Cole, Ralph John	Pa.	Collins, Joseph John	N.Y.
A.B. 1948, The George Washington University		Collins, Michael Joseph	Va.
Cole, Roger Charles	Ill.	Collins, Morris Russell	
Cole, Walter Harvey, Jr.	D.C.	B.S. 1948, Intermountain Union College	Kans.
Coleman, Carl Shaughnessy	Tenn.	Collins, Percy Henry, Jr.	
Coleman, Catherine Verdie	D.C.	B.S. 1941, Kansas University	D.C.
Coleman, Earle Edson	N.Y.	Collins, Samuel James	Pa.
A.B. 1948, The George Washington University		Collins, Webster Horace	D.C.
Coleman, Elizabeth Bridges	Va.	Collins, William Ralph	Fla.
Coleman, Ernestine Daisy	Md.	Collins, William Remston	D.C.
Coleman, Florence Beatrice	Va.	Collins, William Thomas	N.Y.
A.B. 1933, The George Washington University		Collins, William Timothy	
Coleman, George Melchades	D.C.	A.B. 1948, The George Washington University	Md.
Coleman, Harvey Ryon	D.C.	Colla, John Leon	
		B.S. 1948, United States Naval Academy	

Collum, William J. B.S. 1918, United States Naval Academy		Va.	Conn. Richard B.S. 1910, United States Naval Academy		Va.
Colmer, James Henry	D.C.		Conant, John Hamilton	D.C.	
Colner, Bernard J. A.B. 1940, Brooklyn College	D.C.		Concell, Jean Carl		Fla.
Colville, Robert Allen	Ohio		Concell, John Gibbs, Jr.		Va.
Colvin, Harold Bradford	N.Y.		Connelly, Edward Charles		D.C.
Colvin, Julia	Ill.		Connelly, Francis Becker		Va.
B.S. 1940, Bradley University			Conner, John Paul		Pa.
Colvin, Katharine	Pa.		Connerman, Joseph John		N.Y.
A.B. 1946, Bryn Mawr College			Connelly, Joseph Stoddard, Jr.		D.C.
Colwell, Millicent	Calif.		Connelly, Margaret Frances		
Combelic, Donn	D.C.		A.B. 1948, The George Washington University		
Combs, Albert Ann	W.Va.		Conner, Andrew Marie		D.C.
Combs, Henry	D.C.		A.B. 1948, Trinity College		
Combs, William Edward	D.C.		Conner, Joseph Augustine		D.C.
Cominsore, Clara Louise	D.C.		M.D. 1941, The George Washington University		
Comisarow, Paul	Va.		Conner, Joseph Daniel		D.C.
B.S. in A.E. 1944, University of Alabama			Conner, Louis Melton		Md.
Commerce, Viateur Moise	D.C.		B.S. 1943, Maryland State Teachers College, Frostburg		
B.S. 1930, University of Washington			A.M. 1947, University of Maryland		Pa.
Commins, James Alton	Pa.		Conners, William Patrick		D.C.
B.S. 1948, Bucknell University			Conover, Harry Arthur		Va.
Compher, Paul Richard, Jr.	Md.		Conrad, Edna Livingston		Va.
Compton, Charlotte	D.C.		Conrad, James Oliver		D.C.
Compton, John Richard	Va.		Conrad, Robert William		Va.
Compton, Milton Edwin, Jr.	D.C.		Conrads, Robert Arthur		
Compton, Ross Harrington	Va.		B.S. 1946, Principia College		D.C.
B.S. 1947, Massachusetts Institute of Technology			Conroy, Harry		Neb.
Comulada, Manuel	Md.		Conroy, James Francis		D.C.
Conant, Artman Robert	Md.		Conson, Salvatore Anthony		D.C.
Conant, Dee Roger	Tex.		Constable, Virginia		D.C.
Conant, Elizabeth	Va.		Constantine, David		Va.
Conant, Eugene LaVern	D.C.		Constantz, Betty Powell		N.Y.
Conant, Robert Charlton	D.C.		Conte, Joseph Phillip		N.J.
Conason, Emanuel Voltaire	N.Y.		Conti, Carl Conrad		D.C.
Conaway, Harold Leonard	La.		Conti, Reno Joseph		
Conboy, John Anthony	Pa.		B.S. in Ed. 1948, University of Vermont		N.Y.
B.S. 1948, University of Scranton			Continetti, Frank Edward		D.C.
Concelia, Katherine	D.C.		Contino, William Harry		Va.
Concors, Edwin Robert	Pa.		Conway, Emmett Gaddis		D.C.
Condolon, Leo Christy	D.C.		Conway, Ralph Hayes		D.C.
Condon, Mary Louise	N.Y.		Convers, Charles DeValin		
LL.B. 1942, University of Omaha			B.S. 1930, University of Mississippi		Calif.
Condon, Theron Elwin	D.C.		M.B.A. 1940, Northwestern University		D.C.
B.S. in M.E. 1934, Northeastern University			Conzelman, Gaylord Maurice		D.C.
Cone, Dorothy Morton	Fla.		Coogan, James Francis		Va.
Cone, William Henry	D.C.		Cook, Carl Frederick		D.C.
A.B. 1942, Emory University			Cook, Charles Francis		Ark.
LL.B. 1948, Harvard University			Cook, Ellen Jane		Va.
Conelley, Dorothy Brennehan	D.C.		Cook, Frances Rowena		D.C.
Confrey, Magdalene Santell	D.C.		Cook, George Farnham, Jr.		N.Y.
Conger, Harriet Myers	Va.		Cook, Herbert Davey		
A.B. 1939, Smith College			Cook, James Manning		
Conine, Robert Ernest	D.C.		B.S. in Ed. 1941, State Teachers College, Fredonia, N.Y.		D.C.
A.B. 1937, Cornell University			Cook, Joan Marie		D.C.
Conklin, Earl Biddle	Ohio		Cook, John Mason		Vt.
B.S. 1943, Brown University			Cook, Kenneth Wilmoit		Md.
Conklin, Nancy Jane	D.C.		A.B. 1941, Dartmouth College		Va.
Conley, Betty Jane	Ind.		Cook, Marion Francis		Pa.
A.B. 1930, Indiana University			Cook, Myron Clifford		
Conley, Kenneth Alvin	D.C.		Cook, Rae Constance		Va.
Conley, Maurice Joseph	D.C.		B.S.C. 1940, Temple University		D.C.
Conlon, James Ambrose	N.Y.		Cook, Roy Vernon		D.C.
Conn, Gilbert DeVoe	Md.		Cook, Thomas Erwin		Va.
B.S. 1934, The George Washington University			Cook, Vane Austin		D.C.
			Cook, William Gwynne		
			Cook, William Thomas		

Cooke, David Ohlmer	N.Y.	Corbets, Eugene Paul	Ohio
B.S. 1941, M.S. 1942, Buffalo State Teachers College		A.B. 1942, Mount Union College	Va.
Cooke, Edward Andrew	D.C.	Corbin, James Rupert	D.C.
Cooke, Frederick Adolphe	D.C.	Corbett, Dean Hamlin	D.C.
B.S. 1939, Massachusetts Institute of Technology		Corbrey, Joseph Thomas, Jr.	
Cooke, Robert George	Va.	A.B. 1948, Georgetown University	Mo.
Cooke, Thomas Blacknall	N.C.	Corcoran, Daniel James	
A.B. 1930, College of William and Mary		II B. 1945, Washington University	D.C.
A.M. 1937, The George Washington University		Concell, Peter Paul	Va.
Cooksey, Hobart Louis	Va.	Cosler, Irene Wood	Nebr.
B.S. 1940, University of Missouri		Cosler, Lucille D.	D.C.
Coolson, Joseph William	Kans.	Cosler, Sara	Miss.
Coolson, Raymond Theodore	Kans.	Cosman, Anna Elizabeth	Okla.
Coolley, Edwin Remick	Kans.	Cosmos, Earl, Jr.	Ky.
A.B. 1934, Municipal University of Washington		Corr, Palmer Boyd	
Coolidge, Arthur Brownson	D.C.	B.S. 1939, Murray State Teachers College	
Coolidge, Joel E. van	Md.	Cornell, Lucy Paul	D.C.
Cosper, Anna Marie	Pa.	Cornish, Andrew	D.C.
Cosper, Burton	D.C.	Cornish, LeRoy William	D.C.
Cosper, Cecil	Pa.	Cornish, Rose Elizabeth	D.C.
Cosper, Charles David	D.C.	A.B. 1948, University of Michigan	D.C.
A.B. 1947, The George Washington University		Cosmwell, Martha Daniel	Va.
Cooper, Daniel Louis	D.C.	Cosmwell, Penny Lela	Va.
Cooper, Earl Dana	Va.	Cornwell, Richard Edwin	
Cooper, Elizabeth Mary	N.Y.	A.B. 1947, Hampden-Sidney College	D.C.
B.S. 1939, Madison College		Cosnado, Joseph John	D.C.
Cooper, George Huners	D.C.	Cosnado, Michael Anthony	D.C.
Cooper, Grace M.	Mich.	Cosnado, Rosalie Celeste	D.C.
A.B. 1947, The George Washington University		A.B. 1947, American University	
Cooper, Harold Shelby	D.C.	Correa, Leonel Laro	D.C.
Cooper, Joseph Emerson	Ind.	Cosseri, Louis James	N.Y.
A.B. 1938, Indiana University		Corradon, John Benjamin	D.C.
Cooper, Leonard Frederick	D.C.	A.B. 1948, University of Maryland	
Cooper, Lloyd Franklin	Va.	LL.B. 1942, The George Washington University	
Cooper, Mary Evelyn	Va.	Corso, Victor	D.C.
Cooper, Oscar Wilde, Jr.	Ark.	A.B. 1941, Queens College	N.M.
Cooper, Paul Allen	D.C.	Cortez, Ezekiel Cosimiro, Jr.	
Cooper, Paul David	Ind.	A.B. 1943, New Mexico College of Agriculture and Mechanic Arts	
A.B. 1939, Western Maryland College		Corn, Hevelly Bates	Md.
M.S. in Ed. 1943, University of Maryland		B.S. 1944, Casawba College	
Cooper, Ruby Bonita	Ohio	Corvin, Alice Elizabeth	Md.
Cooper, William	N.Y.	Corwan, Leonard Joel	N.J.
B.S. 1916, M.S. 1940, Brooklyn College		B.S. 1947, Rutgers University	Md.
Cooper, William Hurlbert	Ohio	Cosgrove, Thomas Edward	D.C.
A.B. 1946, Western Reserve University		Cosler, McKinney Phipps	D.C.
Cooperman, Bernard Robert	D.C.	Cosmala, Lenore Ann	D.C.
A.B. 1945, The George Washington University		Cosman, Alvin	Mont.
Coot, Thomas David, Jr.	D.C.	Cosner, Harry Walton	Va.
Coover, Mullen Ogle	W.Va.	Cost, Martha Payne	D.C.
A.B. 1942, Shepherd State College		Costa, Irene	D.C.
M.S. 1947, West Virginia University		Costa, Jasper Silva	
Cope, Harland Burleigh	Kans.	II B. 1937, Cornell University	
A.B. 1946, University of Kansas		II M. 1948, Georgetown University	Hawaii
Cope, Nancy Fitzgerald	Pa.	Costa, Robert Oliver	D.C.
Copeland, William Long	Pa.	Costas, John Deaton	Maine
Coplan, Robert Stanley	Md.	Costello, Bartley Alexander	Va.
A.B. 1948, Johns Hopkins University		Costello, Calvin Haslan	D.C.
Coppa, Julia Ann	Va.	Costello, Eugene Aloysius	Pa.
Copperman, Howard Robert	Pa.	Costello, Phyllis Maxine	Va.
Copperthite, Robert Crittenden	Va.	Costello, Thomas Joseph	D.C.
Coppola, Albert Peter	D.C.	Coster, Howard Littleton	Calif.
Copsey, Jesse Fabian	Va.	Cosmano, Alan Robert	D.C.
		Corbham, Robert Rome	Md.
		Cotter, Francis Aloysius	Ill.
		Cotton, Martha	D.C.
		Cottrell, Walter Nevins	Va.
		Coubie, Alexander John	
		B.S. 1949, United States Naval Academy	

Couch, Leo Donald	Wash.	Crabtree, Martha Jane	D.C.
A.B. 1948, University of Washington		Craddock, William Wood	Md.
Coulombe, Eleanor Jones	D.C.	Craft, Alvis Mahlon	D.C.
Coulombe, Raymond Armond	D.C.	Craft, Martha Hickman	Va.
B.M.E. 1948, The George Washington		Craft, Robert Harold	D.C.
University		Cragoe, John Henry	D.C.
Coulson, William Trest	Va.	Craig, Cecile Elizabeth	D.C.
Coult, May	N.H.	A.B. 1947, Clark University	Ill.
A.B. 1947, The George Washington		Craig, Daryl Edward	
University		A.B. 1947, Knox College	D.C.
Coultrip, Raymond Laverne, Jr.	Iowa	Craig, Dwin Richardson	Va.
Cound, John James	Va.	Crain, George Arthur	D.C.
Counselman, Francis Mervin	Va.	Craig, Neil	D.C.
B.S. 1948, Georgetown University		Craig, Paul Max	Va.
Couper, William Paul	D.C.	Craig, William Franklin	D.C.
Couperthwaite, Charles	D.C.	Craig, Winona Bernadine	
Courie, Wadie Alexander	D.C.	B.S. 1947, Purdue University	Va.
B.S. 1948, Georgetown University		Crain, Ralph Rendell	D.C.
Courtillet, Marcel Hawii	D.C.	Crammond, James Darwin	Md.
A.B. 1943, Lycée Shoelcher Fort de		Crandell, William Palmer	N.M.
France, Martinique		Crane, Esther Sibyl	Va.
Courtis, Constantine	D.C.	Crane, James Deegan	
Courtney, Gilbert Rodda	D.C.	B.S. 1947, Georgetown University	D.C.
Courtright, Ann	Md.	Crane, James Fifield	D.C.
Couser, Christian Rewoldt	Conn.	Crane, Joan Nancy	D.C.
Cousins, Helen Loretta	D.C.	Cranford, John Ringer	Va.
Cousins, Wallace Dana	D.C.	Crank, Terrell Harvey	D.C.
Coutsoumaris, George Philipimim	D.C.	Crankshaw, Harold George	
A.B. in B.A. 1934, Graduate School		B.S. 1928, Carnegie Institute of	
of Economics and Business Sci-		Technology	
ences, Athens, Greece		A.M. 1912, Cornell University	D.C.
A.B. in Law, University of Athens,		Crassas, William Constantine	Pa.
Greece.		Cratty, Thomas Dodds	Va.
Covell, Betty Vernon	D.C.	Cravens, Walter Jensen	Md.
Covello, Vincent Anthony	D.C.	Craw, Alexander Robert	
Cover, Richard Gordon	D.C.	B.S. 1939, Depaul University	
Coviello, Marcel Anthony	D.C.	M.S. 1941, University of Notre Dame	Md.
Cowan, David	Mass.	Crawford, Armon David Acheson	
B.S. 1943, Tufts College		B.S. 1910, United States Naval	
Cowell, Charles Ellwood, Jr.	Pa.	Academy	S.C.
Cowbig, William Lawrence	Va.	Crawford, Faith Flora	
Cowie, Margaret Helen	Ohio	B.S. 1948, University of South	
Cowles, Calvin David	Utah	Carolina	Va.
B.S. 1946, University of Utah		Crawford, Gordon Paul	Iowa
Cowles, Frank Lyle, Jr.	Va.	Crawford, Howard Irvin	Idaho
Cox, Donald Gilmer	D.C.	Crawford, Jack Edwin	Va.
Cox, George Benjamin	Md.	Crawford, John Erwin	D.C.
Ph.B. 1947, Northwestern University		Crawford, Sadi Stroosnider	
Cox, George Joseph	Pa.	B.S. 1924, Ohio State University	
Cox, Herman Elmer	D.C.	A.B. 1946, The George Washington	
Cox, Jay Deane	Va.	University	D.C.
Cox, John Balkum	Okla.	Crawford, Seth Turner, Jr.	
Cox, LaVerne A.	Nebr.	A.B. 1947, Harvard University	D.C.
Cox, Lewis Calvin, Jr.	N.M.	Creamer, Francis Joseph	N.C.
Cox, Omer Lorraine	Ill.	Creech, William Hyden	
Cox, Sidney	Maine	A.B. 1948, University of North	
Cox, Wallace Keith	D.C.	Carolina	D.C.
Cox, William	D.C.	Creedon, Agnes Cecelia	Va.
Coyle, Elizabeth Marsh	Va.	Creekmore, Russell Whitfield	Mass.
Coyle, Kathryn Rosamond	R.I.	Creighton, William James	Va.
A.B. 1918, Emmanuel College		Crenner, Hugh Cassell, Jr.	Utah
B.S. in Ed. 1916, Rhode Island		Crellin, Jack Lee	N.Y.
College of Education		Crene, Anthony Rido	Va.
Coyle, Mary Peters	W.Va.	Cremen, William Starr	N.J.
Coyne, Joseph Patrick	D.C.	Cremerius, Marie Rose	D.C.
A.B. 1930, St. Ambrose College		Creson, David Boone	N.J.
Coyner, Owen Faber	Md.	Cresthull, Esther	D.C.
Coxan, Lee William	D.C.	Creswell, Richard Nicholas	D.C.
A.B. 1947, American University		Creveling, Cyrus Robbins	Fla.
Cozmy, K. John	W.Va.	Crews, William Penn	D.C.
Cozi, Aldo John	N.Y.	Crews, Frederick Donovan	Fla.
B.S. 1946, M.S. 1947, Stevens		Crichton, Charles Franklin	D.C.
Institute of Technology		Crigler, Thomas B., Jr.	Va.

Criner, Herschel Burbee	Ark.	Crupper, Joseph Lee	Md.
Crisp, John Kibler, Jr.	Ga.	Crosemore, William	D.C.
Crisp, William Earl	Va.	Crusius, Alice	Md.
Crisa, Filmore Francis	Md.	B.S. 1918, Washington University	
A.B. 1948, West Virginia University		Cruden, Joseph	D.C.
Criswell, H. Donald	D.C.	A.B. 1944, M.S. in Ed. 1936, Harvard University	
Crites, Margie Helen	W.Va.	Cucatto, Osvaldo Domingo	D.C.
A.B. 1944, Shepherd College		Cuculo, Agnes Betty	D.C.
Crittenden, Eugene Casson	D.C.	Cudd, George B.	S.C.
A.B. 1905, Cornell University		Cuddy, William Thomas	D.C.
Crocker, Meda Frances	Ga.	Cudlipp, Irene M.	Md.
Crockett, Thomas John	Conn.	B.S. 1926, Johns Hopkins University	
A.B. 1943, Harvard University		A.M. 1935, Columbia University	
Crogan, John Alvin	Va.	Callahan, Reid Taylor	D.C.
B.S. 1933, LL.B. 1939, LL.M. 1941, Georgetown University		Callane, Robert William	N.Y.
Crogan, John Charles	Va.	Callan, Joseph Gene	D.C.
Croker, Leo James	Md.	B.S. 1947, University of Scranton	
Crom, Curtis Griswold	Va.	Callen, Frank Haywood	Va.
Cronin, G. S. Homer	D.C.	Callen, Joseph Daniel	D.C.
Ph.B. 1937, Holy Cross College		Callen, Marie Annes	N.H.
Cronin, James Joseph	N.Y.	Callen, Paul Joseph	Ohio
Crook, Frank Whittaker	Mass.	Callen, Perry Hager	Calif.
Crooker, Barbara T.	Va.	Callen, William Francis	R.I.
A.B. 1944, Carleton College		Crop, Thelma Francis	D.C.
Crookshanks, Dixie Linn	D.C.	Colpepper, Robert Everett	N.Y.
Croon, Bernard Herman	Va.	A.B. 1948, The Citadel	
Crosby, Herbert Lee	Va.	Culver, Walter Francis	Nev.
Crosby, John Raymond	D.C.	A.B. 1942, University of Nevada	
Crosby, Kenneth Ward	Ohio	Cumbee, Beulah Edna	Va.
B.S. in Ed. 1930, Wilmington College		Cumbee, Harold Ralph	Ky.
A.M. 1940, Haverford College		Cumner, John Robert	D.C.
Cross, Calvin George	Mass.	Cummings, Daise May	Iowa
Cross, Carville Joseph	Md.	Cummings, Eileen Jane	D.C.
Cross, Dan Norman	Iowa	Cummings, Frank	Va.
Cross, Francis Joseph	D.C.	Cummings, George Patrick	N.J.
Cross, George Franklin	D.C.	Cummings, James Robert	Iowa
Cross, George Joseph	D.C.	A.B. 1942, The George Washington University	
Crossen, Gail Waldon	D.C.	Cummings, Lilla Burt	D.C.
Crosswell, Harry Bennett	D.C.	Cummings, Robert Emmet	Va.
Crouch, Hasell Wilkinson	D.C.	Cummings, Samuel	D.C.
Crouch, Robert Cullen	D.C.	Cummings, Stanley	Mass.
Crouse, Paul James	Md.	B.S. 1948, Georgetown University	
Crow, Patricia Ann	Md.	Cummings, David	D.C.
Crowder, Elvin Edward	D.C.	Cummings, Marion Taylor	D.C.
Crowe, William Earl	Va.	Cummins, William Edwin	D.C.
Crowell, Jack	Md.	B.S. 1940, Webb Institute of Naval Architecture	
B.S. 1947, The George Washington University		Cumpiano, Bonilda Edmer	N.I.
Crowley, James Worthington	Tenn.	Cundiff, Charles	Va.
Crowley, John William	Md.	B.S. in M.E. 1946, The George Washington University	
A.B. 1939, College of the City of New York		Cunneiff, George William	D.C.
Crowley, Thomas Michael	N.Y.	Cunneiff, Catherine Beatrice	Okla.
Crowther, Dean Kay	Va.	Cunneiff, Edith Virginia	Va.
Crowdell, Cameron Walter	D.C.	A.B. 1947, The George Washington University	
Cru, Denis Hubert	France	Cunneiff, Grace Fausel	Md.
Cruet, Arthur Manuel	Cuba	A.B. 1940, Bowdler College	
Cruiger, Dorothea	D.C.	Cunneiff, Helen Elizabeth	Mass.
A.B. 1948, The George Washington University		Cunneiff, William Poling	Va.
Cruiger, Floissie Genevieve	Fla.	Cunley, William Henry	Va.
Cruikshanks, Benjamin C., Jr.	D.C.	Currie, Shelby Mitchell, Jr.	Va.
Crum, Frances May	Va.	Currier, Wade Richardson	D.C.
A.B. 1940, Morehead State Teachers College Ky.		Curry, John Langford	N.C.
Crumley, Howard Lee	Va.	Curry, Bruce Quenton	Va.
Crummett, Harvey Bernard	W.Va.	Curry, John Vincent	N.Y.
Crummett, John David	Va.	Curry, Loretta Lane	S.D.
Crummette, Irene Baker	D.C.	Curry, Mary Catherine	D.C.
Crumper, Roland	N.C.	B.S. 1942, New York State College for Teachers	
Crupain, Eli N.	N.Y.	Curry, Michael Paul	Pa.
A.B. 1940, Brooklyn College			

Curry, Stowers Leigh	Va.	Dalrymple, James McIver	Va.
Curtin, John Dominic, Jr.	Md.	Dalsheim, Henry Monroe	N.Y.
Curtin, Paul Keller	Conn.	Dalton, Charles Edward	Va.
Curtis, Harold Marshall	Md.	Dalton, Dionne	Va.
Curtis, James LeRoy	Wis.	Dalton, Eileen Elizabeth	D.C.
Curtis, Kenneth Edward	D.C.	Dalton, Elizabeth Victoria	Va.
Curtis, Lyle S.	Utah	B.S. in Ed. 1942, Madison College	N.J.
Curtis, Mattie McCain	Va.	Dalton, Martin Frank	Va.
Curtis, Robert Edward	Md.	Dalton, Rea Elizabeth	D.C.
Curtiss, Jeanne	Md.	Dalton, Stanley Charles, Jr.	D.C.
Cushman, Robert Everton	Minn.	B.S. 1947, Rensselaer Polytechnic Institute	
B.S. 1935, United States Naval Academy		Dalton, Thomas James	Va.
Cussen, Arthur John	D.C.	Dalton, William Robinson	Va.
Custard, Robert Franklin	Va.	Daly, Elizabeth Teresa	Va.
Custer, Cleo A.	Pa.	Daly, John Joseph	D.C.
Custer, Edward Scheid	Del.	Dalzell, Harry Blackburn	Portugal
Cutler, Charles Russell	Ill.	Damatta, Maria Vieira	D.C.
B.S. 1945, California Institute of Technology		Dambrosio, Alfred John	Pa.
Cutter, Slade Derille	Va.	Dambroski, Stanley George	D.C.
B.S. 1935, United States Naval Academy		Damelin, Jack	
Cutting, Seymour Austin	D.C.	B.S. 1942, University of California	D.C.
Cuttitta, Frank	D.C.	Dameron, Carlton Sherwood, Jr.	D.C.
B.S. 1937, Brooklyn College		D'Amico, Albert J.	
Cutta, James Madison	D.C.	B.S. 1947, American University	D.C.
Cwasjziel, Leon	Israel	Damm, Cyro	D.C.
Czajkowski, Norman	N.Y.	Damm, Gloria Lydia	R.I.
Czarnecki, Marian Anthony	Wis.	Damm, William Karl	Mass.
Czerwinski, Walter Julian	D.C.	Damon, John	Ohio
Czeskleba, Irwin Victor	Wis.	Damron, Charlotte Moorar	
		A.B. 1940, Wellesley College	
		M.S. 1942, Rutgers University	N.Y.
		Danahar, Thomas Patrick	Va.
		Dancy, Allen Joseph	Va.
		Dancy, Norman Louis	D.C.
		D'Andelet, Helen Mae	Ill.
		D'Andrea, Angela Rose	Wash.
		Dane, Genevieve O'Leary	Pa.
		Dane, Michael Nicholas	Va.
		Danforth, Robert Compton	D.C.
		Daniel, Bernard H.	
		A.B. 1931, Osachita College	D.C.
		Daniel, Neil	Va.
		Daniel, Robert Herman	D.C.
		Daniel, Virgil	N.C.
		Daniel, William Jeffress	
		B.Ch.E. 1947, North Carolina State College	Va.
		Daniels, Almon Edward	
		B.S. 1937, University of Florida	W.Va.
		Daniels, Howard Kenneth	Md.
		Daniels, Mary Catherine	Pa.
		Daniels, Miles Dewey	Md.
		Daniels, Richard Gauntlett	Pa.
		Daniels, Thomas John	Md.
		Daniels, Walter Melvin	Pa.
		Danilowicz, Henry Julius	Pa.
		Danilowicz, Pascal Joseph	
		B.S. in C.E. 1940, Wilkes College	Md.
		Dann, Clayton Sherwood	
		A.B. 1942, University of Maryland	Ala.
		Dannelly, Frank P.	
		A.B. 1943, University of Alabama	Pa.
		Dannenhirsch, Albert	
		B.S. 1947, Temple University	Ky.
		Danner, Virginia Marie	D.C.
		Danzig, Ada Beverly	D.C.
		Danzig, Solomon Albert	Va.
		Dapprich, Andrew Carl	
		B.S. 1938, United States Naval Academy	Mass.
		Darby, Eleanor R.	
Dabney, Linwood Morton, Jr.	Md.		
DaDamio, Valentine Joseph	Pa.		
Daggit, Edward Arthur	Va.		
Daggit, Elizabeth Middleton	Va.		
Dahl, Edward	Md.		
A.B. 1924, Yale University			
Dahlberg, Richard Ernest	Pa.		
Dahlgren, Frances Veola	Mass.		
Dahlring, Bruce Eugene	Tenn.		
B.S. 1918, North Dakota Agricultural College			
Dailey, Catherine Bernice	Conn.		
Dailey, Jesse Oswald	D.C.		
Dailey, Robert Engle	W.Va.		
B.S. 1948, The George Washington University			
Daitz, Bernard David	N.Y.		
A.B. 1936, Brooklyn College			
M.S. 1938, Columbia University			
Dale, Carolyn Olson	D.C.		
Dale, John Estes	D.C.		
Daleda, Joseph	D.C.		
B.S. 1934, Massachusetts Institute of Technology			
LL.B. 1942, The George Washington University			
Daley, John Nicholas	Md.		
Daley, Sara I.	Pa.		
Daley, William John	Mass.		
A.B. 1941, Tufts College			
Dallachiesi, Albert Fortunato	Va.		
Dallaire, Eusebe Andre	D.C.		
Dallas, John Taylor	D.C.		
Dallatore, Roland R.	Wis.		
Dalley, Donald Leslie	N.J.		
A.B. 1948, The George Washington University			
Dalonas, John	D.C.		

D'Arzno, Louis Robert	R.I.	Davis, Elizabeth	Fla.
Dargan, Marion, Jr.	N.M.	B.S. 1943, Florida State College for Women	
Darlin, Lewis R., Jr.	Ohio	Davis, Elsie Wylie	D.C.
Darlington, Margaret	N.J.	B.S. 1941, Teachers College of Connecticut	
B.S. in Ed. 1946, New Jersey State Teachers College, Glassboro		Davis, Elton D.	N.J.
D'Armi, Ytalina Mary	Del.	Davis, Esther Packman	Md.
Darmohray, Edward Joseph	Md.	B.S. in Ed. 1934, University of Pennsylvania	
Darmstadter, Joel	D.C.	Davis, Evelyn Smathing	Va.
Darr, Harry Frazee	Mich.	Davis, Francis Theodore	Va.
B.S. 1942, Wilson Teachers College		B.S. 1947, University of Chicago	
Dersch, Earl Clement	Va.	Davis, George, Jr.	Ind.
A.B. 1941, Western Maryland College		Davis, George Alfred, Jr.	D.C.
Daskam, Harry Mortimer	Conn.	Davis, George Roland	Md.
Dasteel, Robert Herbert	Calif.	Davis, Gloria Norma	D.C.
B.S. 1939, United States Naval Academy		Davis, Gordon	D.C.
Datlow, Donald William	D.C.	Davis, Grace Ann	Md.
Daubanton, Conrad Jacques	Netherlands	Davis, Harry Edward	Md.
Daube, Robert Walter	N.Y.	Davis, Henry Austin	Pa.
Dauer, John Walter	Ky.	Davis, James Elluah	N.Y.
Dauer, Maxwell	D.C.	Davis, James Graham	Va.
A.B. 1935, M.S. 1937, New York University		Davis, James Vincent, Jr.	Va.
Daugherty, Charles Raymond	Minn.	Davis, Jeanne Marie	Md.
A.B. 1944, The George Washington University		Davis, John Alexander, Jr.	Calif.
Daugherty, Floyd Norton, Jr.	D.C.	Davis, John Mason	Fla.
Daugherty, Mary Barbara	Ind.	B.S. in M.E. 1940, University of Illinois	
Dawson, Grover Frederick	Va.	Davis, John W.	Del.
Davenport, Billy Allen	S.C.	Davis, John Williams	D.C.
Davenport, Cicely Merriam	D.C.	Davis, Joseph Howe	Va.
Davenport, John Hobson	Va.	Davis, Joseph Reid	Tex.
Davenport, Milton Monroe	Va.	Davis, Karl Ernst	D.C.
David, George E.	Md.	Davis, Kenneth Lee	D.C.
David, Harry	Va.	Davis, Lewis William	Md.
David, Maurice Allen	Ind.	B.S. 1940, State Teachers College, Westchester, Pa.	
David, Robert Spencer	Calif.	Davis, Lilla Wimbrish	Va.
B.S. 1938, University of California		Davis, Martin Thomas	Conn.
Davidow, Herbert Harvey	D.C.	B.S. 1948, Rensselaer Polytechnic Institute	
Davidson, Chester Peter	N.Y.	Davis, Mary	D.C.
Davidson, Edward Albert	Md.	Davis, Paul Lee	D.C.
Davidson, Frank Joseph	N.Y.	B.S. 1947, M.S. 1948, The George Washington University	
Davidson, Gilbert	Va.	Davis, Raymond Arthur	Va.
Davidson, Herbert Donald	D.C.	Davis, Richard Frantz	Va.
Davidson, Roy Aaron	D.C.	Davis, Richard Milton	Md.
Davies, David George	Pa.	Davis, Richard Nathan	Va.
Davies, Edith Maurice	D.C.	Davis, Robert Henry, Jr.	D.C.
Davies, Helen Maurice	D.C.	Davis, Robert Hugh	Mass.
Davies, John Riva	W.Va.	Davis, Robert Lee	D.C.
A.B. 1946, University of North Carolina		Davis, Robert Walker	D.C.
Davies, Owen Myrddin	Va.	Davis, Sadye Jane	Pa.
Davis, Akin Thornwall	D.C.	A.B. 1947, The George Washington University	
Davis, Albert Paul	D.C.	Davis, Thomas McLellan, Jr.	D.C.
Davis, Andrew Nathan, Jr.	D.C.	Davis, Thomas Walker	Mass.
Davis, Barbara Jean	Fla.	Davis, Virginia Lee	
Davis, Christopher Wheelwright	Va.	B.S. 1938, Teachers College of the City of Boston	
A.B. 1949, University of the South		Davis, Vivian Berry	Ala.
Davis, Clifford	Tenn.	A.B. 1932, University of Alabama	
Davis, Dale Miller	D.C.	Davis, Vivian Elizabeth	Mich.
Davis, David Stanley	Ohio	Davis, Winston McStuart	Va.
Davis, Donald Bull	N.Y.	B.S. 1947, Georgetown University	
Davis, Donald Vernor	Pa.	Davison, Clarke	D.C.
Davis, Donnell Preston	S.C.	B.S. 1948, The George Washington University	
A.B. 1945, University of South Carolina		Davitian, Salpee	W.Va.
Davis, Edward Harry	D.C.	A.B. 1947, Marshall College	
Davis, Edwin Lanier	D.C.		
A.B. 1947, L.L.B. 1948, The George Washington University			
Davis, Eleanor Adele	D.C.		

Davitt, Edward Patrick	Va.	de Camara, Richard Paul	Va.
Davy, Earl Philip	Conn.	DeCarlo, Eugene	Pa.
A.B. 1948, Yale University		DeCesare, Rita Lucille	D.C.
Dawn, Carroll William	D.C.	Dechter, Gerald Yale	D.C.
Dawson, Ann D.	D.C.	Deck, William Horace	Md.
Dawson, Edward Balloch	D.C.	B.S. in B.A. 1942, University of Tennessee	
A.B. 1936, Princeton University	Va.	Deck, William Meade	D.C.
Dawson, Howard Athalone, Jr.		Decker, Charles Seymour, Jr.	Md.
B.S. 1946, University of North Carolina		Decker, Charlotte Burch	D.C.
Dawson, James Alfred	Va.	B.S. 1939, Wilson Teachers College	
Dawson, Roger Ralph	Mont.	Decker, George Elwood	D.C.
LL.B. 1948, The George Washington University		Dedick, Hope Nadine	Pa.
Day, Calvin Woodward	Conn.	Deeley, Jean Florence	Va.
Day, Emmett Milton	Va.	Deen, Thomas Richard	Mich.
B.S. 1938, A.M. 1943, The George Washington University		Deering, Harold John	Oreg.
Day, Ernest Herbert	Ohio	Dees, Lola Tidwell	D.C.
A.B. 1941, Oberlin College		Deeyer, William Taylor, Jr.	Pa.
Day, Herbert Thomas	Md.	A.B. 1948, The George Washington University	
Day, Howard MacDonald, Jr.	D.C.	DeFeis, Peter Pat, Jr.	D.C.
Day, Louise Duval	Va.	DeFreitas, Edward Neville	Va.
Day, Robert Myron	D.C.	A.B. 1946, The George Washington University	
Dayton, William Adams, Jr.	Va.	DeFrin, Seymour	N.Y.
A.B. 1947, Otterbein College		DeGarmo, Charlotte Lou	D.C.
Dayton, William Russell	Ohio	DeGast, Leonard Arie	Md.
A.B. 1935, Wittenberg College		Degee, Daisy Georgette	Belgium
Dea, Franklin	Calif.	Degen, Carl George, Jr.	Md.
A.B. 1948, University of Maryland		Degges, John Frederick	D.C.
Deadwyler, Carl Morris	Va.	Dehn, Ervin Noble	Ill.
DeAgro, Richard Parker	D.C.	A.B. 1947, The George Washington University	
Dean, Benjamin Franklin	D.C.	Dehn, Marion Elizabeth	Ill.
Dean, Beatty	Ga.	Dehnel, Margaret Lewis	D.C.
Dean, Dorothy Louise	Va.	B.S. in Ed. 1939, University of Toledo	
Dean, Frank Atwood	Md.	Deibler, David Hobson, Jr.	D.C.
B.S. in C.E. 1941, University of Toledo		Deiderich, Howard Carl	Ohio
Dean, Frank B.	D.C.	Deigen, Shirley Norma	D.C.
Dean, Gertrude Mary	Va.	Deily, Francis Wilson	Va.
Dean, Gunga Lee	Md.	Deitrick, Thomas Carter	Va.
Dean, John Joseph	Va.	DeJong, Betty	D.C.
A.B. 1941, LL.B. 1948, The George Washington University		DeJong, Evelyn Yvonne	Netherlands
Dean, Louise Blateslen	D.C.	DeKeyser, Henry Leo	D.C.
A.B. 1919, Wellesley College		A.B. 1937, A.M. 1942, New Jersey State Teachers College, Upper Montclair	
Dean, Mary Kendrick	D.C.	DeKlerk, Thomas	D.C.
Dean, Thompson	D.C.	DeKornfeld, Thomas	Md.
A.B. 1915, Harvard University		Baccaluerate 1942, Gymnasium Scholarum Piarum, Budapest	
Dean, Willis Calvin	Va.	Delabar, John Henry	Pa.
DeAngelis, Louis Benjamin	N.Y.	De La Cova, John Albert	D.C.
DeAngelis, Quinty Carl	Va.	B.S. 1937, Villanova College	
DeAngelis, Vincent James	Va.	de la Garza, Hector Ruben	Tex.
B.S. 1910, The George Washington University		Delaney, Carroll Day	N.Y.
Dear, Frances Brook	N.C.	Delaney, Henry Leon	La.
Deardorff, Richard Fiscal	D.C.	Delaney, John Aloysius	Mich.
Deasy, John Paul	Ohio	Delaney, Mildred A.	D.C.
DeAugustine, Frank Ralph	D.C.	A.B. 1926, Trinity College	
DeAvies, Emmett George	D.C.	DeLashmunt, Robert Eugene	Ohio
DeBarr, John Richard	Pa.	Delasos, Lewis	D.C.
A.B. 1947, Bucknell University		A.B. 1948, The George Washington University	
DeBlasis, Samuel Joseph	Ohio	DeLeon, Antonio Mari	D.C.
DeBlois, Jean Paul	R.I.	B.S.C. 1933, Far Eastern University, Manila	
DeBoeck, Jean-Baptiste Louis	D.C.	DeLeon, Dionisio Aquino, Jr.	Philippines
DeBord, Philip Matthew	D.C.	DeLeon, Olaf Crane	D.C.
B.S. 1949, University of Santa Clara		Delevaux, Maryse Helen	Ola
DeBruin, Wesley	Ohio	Delgado, Angel L.	Puerto Rico
B.S. in E.E. 1946, Illinois Institute of Technology		Delgado, Frank Anthony, Jr.	D.C.
Dec, Theodore	Wash.		
B.S. in C.E. 1944, M.S. in C.E. 1948, University of Washington			

DelGrosso, Peter Albert	D.C.	Dery, Rita Eva Alice	R.I.
Dela, Frank S.	D.C.	B.S.S. 1943, Bryant College	
Dell, Albert Hampson	Md.	Deschel, Charles Francis	Md.
Dell, George Arthur	Va.	desilya, Sara Thompson	D.C.
Della-valle, Alex Albert	Va.	A.B. 1924, Wellesley College	
Delle, Lyman Curtis	Minn.	A.M. 1927, Radcliffe College	
de los Rios, Lolita	D.C.	Desilva, William Darley, Jr.	Va.
Del Priore, Francis Rocco	D.C.	Deskin, Elaine	D.C.
A.B. 1941, New York University		A.B. 1947, The George Washington University	
DelRusso, Alessandra Luini	Italy	deSouza, Pamela Constance	Va.
Doctor Litter 1930, Doctor Jurispr.		Despain, Jane	Iowa
1943, University of Milan		A.B. 1940, University of Iowa	
deluna, Frederick Adolph	Md.	Despain, Maria Patricia	Iowa
Demaree, LeRoy David	Va.	A.B. 1943, Colorado State College of Education	
Demartino, Umberto	D.C.	Dessez, Lester	D.C.
Demas, Esther Peter	D.C.	Dessez, Sally Chew	D.C.
Dematates, Alex	D.C.	A.B. 1948, The George Washington University	
Dembling, Paul G.	N.J.	Detamore, Roscoe James	Va.
A.B. 1940, A.M. 1942, Rutgers University		Deters, Martin Paul, Jr.	N.Y.
Dembrow, Daniel William	Md.	A.B. 1945, Williams College	
B.S. 1942, The George Washington University		Deters, Owen John	D.C.
Dembrow, Leon William	Md.	B.S.E. 1942, University of Cincinnati	
Demetz, Mary Katherine	Hawaii	Detlie, Martin Oliver	Va.
DeMeza, Louis Eugene	D.C.	Detling, Harold Clarence	Md.
Demos, Frances Louise	Ill.	Detmer, Edwin Charles	Md.
DeMott, Benjamin Haile	N.Y.	Detmer, James Edwin	Ind.
Dempsey, Donald Crammer	N.J.	Detorie, George William	Va.
Dempsey, Jene Leonard	Miss.	Detrie, Evelyn Louise	Wis.
Demshock, John Joseph	D.C.	Detters, Warren Prentiss	Md.
Denham, Russell Burnham	Ark.	Detty, George William	D.C.
Denham, Sara Belle	Ky.	DeUmaria, Jose Santiago	Philippines
Denham, Thomas Boonin	Pa.	Deutrich, Bernice Marie	D.C.
Dennemeyer, John James	D.C.	Deutsch, Norman	N.Y.
Denning, John Patrick	Ohio	B.Ch.E. 1944, College of the City of New York	
Dennis, Charles Erwin, Jr.	D.C.	M.Ch.E. 1948, New York University	
Dennis, David Stanley	Ill.	Devan, Christopher Bartrum	D.C.
A.B. 1947, University of Chicago		Devan, Joseph Francis	N.H.
Dennis, Rayburn Hicks, Jr.	D.C.	Devan, Thomas Arthur	D.C.
Dent, Richard Judson	Va.	A.B. 1948, The George Washington University	
Denton, Charles Alexander	Md.	DeVane, Thomas Michael	D.C.
B.S. 1945, The George Washington University		DeVaughn, Robert Wilson	Ga.
Denton, Elmo Hilliard	N.C.	Devay, Robert Brown	Ohio
Dentz, Edwin James	D.C.	Devening, Donald Clayton	Ind.
Dentz, Robert Joseph	D.C.	Deverman, George	Ill.
DePaoli, Dora Marie	N.Y.	Devers, Evelyn G.	Va.
DePaul, Joseph Alfred	Md.	A.B. 1949, The George Washington University	
Deperini, Wilbur George	Md.	DeVico, Luigi	N.Y.
D'Epiro, Albert Lincoln	Pa.	Devin, Charles, Jr.	N.Y.
Deque, Kathleen Louis	Va.	Devine, John Patrick	Md.
A.B. 1947, Wellesley College		Devison, Roderick Andrew	W.Va.
Depue, Margaret VanNostrand	Va.	B.S. 1941, West Virginia University	
DeRemer, Bernard Ray	Ohio	Devlin, Harold Michael, Jr.	Va.
DeRosa, Edward Francis	Mass.	Devlin, John L.	Va.
A.B. 1947, The George Washington University		A.B. 1942, Catholic University of America	
DeRosa, Felix Michael	N.Y.	Destlin, Paul Andrew	Pa.
A.B. 1941, Cornell University		Dew, Alice Perkins	Va.
LL.B. 1941, Fordham University		A.B. 1937, Mary Washington College	
Derr, Charles Ivan	Pa.	Dew, Jackson Leonard	D.C.
A.B. 1939, Illinois Wesleyan University		Dewberry, Raymond Allen	D.C.
Derr, Charles Melvin	W.Va.	Dewberry, Sidney Oliver	D.C.
B.S. in Ch.E. 1931, West Virginia University		Dewberry, Willis Elbert	D.C.
A.B. 1911, Shepherd State College		DeWeese, William Robert	Ohio
Derrick, Duane Greenwood	Utah	Dewey, John Fremont	Va.
Derry, William Gerald	Md.	Dewitt, Charles Kenneth, Jr.	Md.
Dertatevarion, Samuel	Va.	Dewitt, Henry Arthur	D.C.
Dervan, Ralph Donald	D.C.		

DeWitt, James Corwin B.S. 1943, Mount Union College	Va.	Dietz, Stanley Martin Dietz, William Edward A.B. 1947, The George Washington University	N.Y. Md.
DeWitt, Maynard Browning	D.C.	Diffenderfer, Anne Lenoir	D.C.
Dewitt, William Bradley A.B. 1948, Howard College	Ala.	Diffie, Wilma George A.B. 1940, Louisiana Polytechnic Institute	Md.
DeWolf, Francis Colt, Jr.	D.C.	Diffley, John Edward	Pa.
Dexter, Edwin Boardman B.S. 1928, United States Naval Academy	D.C.	DiGiulian, Anna Maria	D.C.
DeZellar, James Edward	Iowa	Diker, Valihe	D.C.
Diamant, Lila Ruth	D.C.	Dilks, Carl William	N.J.
Diamond, Jack Kenneth	D.C.	Dillard, Terry Boyd	Tex.
Diamond, Stanley Eliahue	N.Y.	Dilley, Donald LeRoy	Colo.
Diamond, William Thomas, Jr. A.B. 1942, Union University	Tenn.	Dilley, Luther	Wash.
LL.B. 1948, University of Virginia		Dilli, Barbara Lindsey	D.C.
Dias Carneiro, Octavio Augusto	Mass.	Dilli, Nancy Tucker	D.C.
B.S. 1933, Brazilian Naval Academy		Dilliplane, Earl Kenneth	Pa.
Diavatis, Nicholas Demos	D.C.	Dillon, Donald Jesse	Calif.
Diaz, Adolfo Solorzano	D.C.	Dillon, Edward Scott B.S. 1932, University of Illinois	D.C.
Diaz, Godoy Nario	D.C.	Dillon, Enoch Laroy B.S. 1948, Pacific University	Oreg.
Diaz, Orestila A.B. 1941, Maria Auxiliadora Institute, Honduras	Honduras	Dillon, Joe Clyde	Va.
Dibble, David Eugene	D.C.	Dillon, Robert Warren	Md.
DiBenedetto, Anthony Domenico B.S. 1943, Villanova College	N.Y.	Dillon, Thomas Power B.S. in B.A. 1930, University of Pittsburgh	Md.
DiBner, Richard E. B.M.E. 1943, College of the City of New York	N.Y.	Dillon, Zietta Shriver A.B. 1946, The George Washington University	D.C.
DiBrell, Sterling Tucker B.S. 1921, United States Naval Academy	Va.	Dilly, Robert Gibson	Md.
Dichter, Jack C.	N.J.	DiMaio, Marie Ann	R.I.
DiCicco, Orlando Earl	Pa.	DiMartino, Horace Robert	Mass.
Dick, Arthur Freeman	Va.	Dimmette, Claude Chester, Jr.	D.C.
Dicke, Allen August, Jr. B.S. 1947, Lehigh University	Va.	DiMona, Joseph Michael A.B. 1947, Duke University	N.J.
Dickerson, Mary Lou	N.C.	Dingess, Harvey David A.B. 1947, Marshall College	D.C.
Dickey, Maxine	Ind.	Dingler, Richard William	Ill.
Dickey, Pauline E.	Wash.	Dinguess, LeRayne	Ky.
Dickinson, Anne Defrees A.B. 1948, Smith College	D.C.	Dinkins, Edward McQueen	D.C.
Dickinson, Helen Douglas	Va.	Dineen, Margaret Catherine	Minn.
Dickinson, Nancy Ruth A.B. in Ed. 1945, Mary Washington College	Va.	Dinsmore, Ruth Ann B.S. 1940, State Teachers College, Worcester, Mass.	Mass.
Dickson, Thomas Stuart	Va.	Dion, Marie Berthe	D.C.
Dickman, Alfred	N.Y.	Dionio, David	N.Y.
Dickson, Evelyn Emerick	Va.	D'Ippolito, Mario	D.C.
Dickson, James Meek	Md.	Dirks, Barbara A.B. 1917, Smith College	N.Y.
Dickson, Lois Pengelly A.B. 1947, The George Washington University	D.C.	A.M. 1941, Columbia University	N.Y.
Dickson, Robert Carl, Jr.	D.C.	Dirtadian, Helen	Pa.
Dickson, William Francis	Va.	Disler, Oscar Charles A.B. 1945, The George Washington University	
Didier, Carmen Marcelle	Kans.	Disney, Gloria Elizabeth	D.C.
Didlake, Betty Gore	Va.	Disque, Allen William	Md.
Diedel, C. Virginia LL.B. 1929, The George Washington University	D.C.	Diston, Frank Farr	N.Y.
Dieguez, Ledda	D.C.	Ditcheck, Florence A.B. 1948, Cornell University	D.C.
Diehl, Forrest Howard	Ohio	Dittmann, Stephen Peter	Pa.
Diemer, Fred Joseph	N.Y.	Ditzler, Marshall Ernest	
Diemer, Robert Arthur	D.C.	B.S. 1936, Lebanon Valley College	Md.
Dierden-Crockett, Jeffrey R.	D.C.	Divers, Mary Janice A.B. 1947, Western Maryland College	Va.
Dierks, John Henry	D.C.	Divine, William Beach	D.C.
Dieter, Rose Ward	Va.	Dix, Edgar LaRue	Md.
Dietrich, Diane Landre	Va.	Dix, Francis	Md.
Dietrich, E. Donald	Md.	Dixon, Cloyce Irven, Jr.	Ky.
Dietrich, Jack Mitchell	Kans.	Dixon, Edgar Allen, Jr.	D.C.
Dietz, Albert Edward	D.C.	Dixon, George Carlton	D.C.
Dietz, Glenn Allen	Fla.	Dixon, Jane Manherz	

Dixon, John Wainwright	Tex.	Donaldson, John Charles	D.C.
Dixon, Kenneth Fife	Va.	Donaldson, John Eldridge, Jr.	D.C.
A.B. 1945, The George Washington University		Donelson, Kenneth William	Nebr.
Dixon, Robert Galloway	N.Y.	Dooley, Jack Carlton	Md.
A.B. 1943, Ph.D. 1947, Syracuse University		Donnel, Nettie Ellen	D.C.
Dixon, Rod Paul	Utah	B.S. 1941, University of Illinois	
A.B. 1947, University of Utah		Donnelly, Albert Lee, Jr.	Conn.
Dixon, Thomas Wilson	Md.	A.B. 1948, Yale University	
Dixon, William Joseph	D.C.	Donnelly, Bruce Norman	D.C.
Dixon, William Martin	Md.	Donnelly, Henry Joseph	Va.
Doane, John Emil	Md.	B.S. 1928, University of Pennsylvania	
Dobbis, Barbara	Md.	Donnelly, Owen James	D.C.
Dobin, Joel Charles	N.J.	Donnelly, Richard Charles	D.C.
A.B. 1948, Princeton University		Donnelly, William Francis	D.C.
Dobkin, Abraham	N.Y.	Donnelly, William James	Md.
A.B. 1948, The George Washington University		Donnett, William Edward	Calif.
Dobres, Jeanne Louise	Md.	D'Onofrio, Bess Joan	N.Y.
Dobrowolski, Helen Little	Va.	Donoghue, Edward Ignatius	D.C.
A.B. 1941, Woman's College of the University of North Carolina		Donoghue, James Francis	Md.
Dodd, Harold Gregory	Va.	Donohue, Harold	Md.
Dodd, Randolph Lee	Va.	Donohue, John Andrew	N.Y.
Dodds, Rosemary	D.C.	Donohue, Katherine Virginia	Md.
Dodek, Trenice Ann	D.C.	Donovan, Catherine Angela	D.C.
A.B. 1948, University of Michigan		B.S. 1947, State Teachers College, California, Pa.	
Dodge, Austin Phelps	Md.	Donovan, James Alport, Jr.	Va.
B.S. 1944, Massachusetts Institute of Technology		A.B. 1937, Yale University	
Dodge, John Parker	Md.	Donovan, Richard Ferry	D.C.
A.B. 1940, Johns Hopkins University		Donovan, Rita Marie	D.C.
Dodge, Sally Marden	Ohio	B.S. 1942, State Teachers College, California, Pa.	
Dodge, William Bannard	Va.	DonVito, Pasqual Anthony	Pa.
Dolson, Claire	D.C.	Dooley, Joseph William	Va.
A.B. 1948, The George Washington University		Dooley, Rose Marie	Canada
Dodson, Doris Arlene	W.Va.	Doollittle, Howard Chester	D.C.
Dodson, Elba Allen	Va.	Doom, James Burdette	Ill.
Dodson, Joseph Edward	D.C.	Dooner, Eugene Carolan, Jr.	Fla.
B.S. 1930, United States Naval Academy		Doorn, Henry	D.C.
M.S. 1940, Massachusetts Institute of Technology		Doorn, Sylvia	N.Y.
Doe, Norman Ross	Mass.	Doran, Leonard Granville	Va.
A.B. 1948, Marshall College		A.B. 1942, Harvard University	
Doermann, Anne Constance	D.C.	Doran, Roger LeRoy	D.C.
Doernenburg, Helen Johanna Hulda	Ill.	Doran, Stephen Mark	Mich.
Dolan, Robert Eugene	N.I.	Dorfman, Hilward	Pa.
Doing, Charles Halleck	D.C.	Dorie, William Matthew	N.Y.
Dolecki, Joseph Francis	D.C.	Dorka, Hubert Fred	Pa.
B.S. 1946, University of Alabama		Dorman, Arthur	D.C.
Dolineck, Stephen Arthur	N.Y.	Dorosh, Edward	N.Y.
Dollard, James	Md.	Dorson, Selma	N.J.
A.B. 1939, College of the City of New York		Dorr, Bernard Francis	D.C.
Dolnick, Ethel Helen	D.C.	Dorr, Bradford Ripley	D.C.
Doman, Francis	D.C.	A.B. 1902, Williams College	
S.J.D. 1938, Royal Hungarian University, Budapest		Dorr, Lorita	D.C.
Donaghue, Eugene John	D.C.	Dorr, Lucile Bertram	D.C.
A.B. in Ed. 1940, Duquesne University		Dorre, Lawrence	Tex.
Donahay, Justin James	D.C.	A.B. 1948, North Texas State College	
Donald, Bobbie Lester	D.C.	Dorrell, Russell Ellsworth	D.C.
Donald, Mary Eleanor	D.C.	B.S.E. 1934, Carnegie Institute of Technology	
Donald, Samuel Everett	D.C.	Dorris, Morris Bernard	D.C.
A.B. 1931, Lynchburg College		Dorsey, Jeanette	D.C.
Donaldson, Allyn Capron, Jr.	D.C.	Dorsey, Benjamin Henry	D.C.
Donaldson, Frances Flasche	D.C.	B.S. 1945, University of Pennsylvania	
A.B. 1925, The George Washington University		L.L.B. 1948, The George Washington University	
Donaldson, Joan Marie	D.C.	Dorsey, Edward Gerard	Mo.
		Dorsey, Guy Houston	D.C.
		Dort, Evelyn Andersson	Fla.
		Dort, Wallace Emerson	Fla.
		Dose, Robert George	Calif.
		B.S. in M.E. 1936, Washington University	

Dosik, Stanley	D.C.	Downey, John Joseph	Mass.
B.S. 1939, Wilson Teachers College		Downey, Maureen E.	D.C.
Dotson, Daniel Keating	Nev.	Downing, Matthew Patrick	Mass.
Dotson, Edwin John	Nebr.	Downing, Merritt	Pa.
Dotson, Maryanna Elizabeth	D.C.	Downs, Harold Alfred	Va.
A.B. 1948, The George Washington University		Downs, Justin Gaylord	Va.
Dotson, William Dean	Tenn.	Downs, Nolland McKenzie	Va.
LL.B. 1940, Catholic University of America		Downs, Rhoda Jane	Va.
Dosy, Dale Edward	Calif.	Downs, Robert Jack	Okla.
A.B. 1936, Pomona College		Doyle, Ann Catherine	Colo.
A.M. 1938, University of Cincinnati		Doyle, Donald Earl	D.C.
Doub, Dorothy Loucille	N.C.	Doyle, Francis Xavier	D.C.
A.B. 1941, Brenau College		Doyle, John Benedict, Jr.	Calif.
Doucarelis, Alexandria	N.Y.	A.B. 1948, University of California at Los Angeles	
A.B. 1943, Hunter College		Doyle, Mahlon Eugene	N.Y.
Doud, Robert DeVerle	Va.	Doyle, T. Roy	Pa.
Dougan, William Page	Tenn.	Doyle, Vincent Joseph	D.C.
B.S. 1939, University of Tennessee		Drag, Teddy Frank	Mich.
Dougherty, Eleanor Elizabeth	Tenn.	Dragoo, Roland Paul	D.C.
Dougherty, Frank Robert	D.C.	B.S. 1941, University of Idaho	
A.B. 1946, The George Washington University		Drain, Richard Dale	D.C.
Dougherty, Harold Joseph	N.Y.	A.B. 1943, LL.B. 1948, Yale University	
Dougherty, Joseph Patrick	Va.	Drake, Nadine Grace	D.C.
Dougherty, Louis Leighton	Pa.	Drake, Stanley Richard	Pa.
Dougherty, Thomas James	N.D.	Draper, Elizabeth Kohl	D.C.
Doughty, James Irving	D.C.	A.B. 1924, A.M. 1935, The George Washington University	
Douglas, Doris Stringfield	Va.	Draper, William Alfred	D.C.
Douglas, Eleanor Preston	Fla.	B.S. 1935, Wilson Teachers College	
B.S. 1943, University of Alabama		Drapkin, Leon Isadore	D.C.
Douglas, James Andrew	D.C.	Dratwick, Christine H.	Ill.
Douglas, James Homer	D.C.	Drayer, Clarence Prowell	D.C.
Douglas, Jean	Fla.	Dredge, Talbot William	Idaho
A.B. 1948, Florida State College for Women		Dreisonstok, Erwin Milton	Id.
Douglass, Arthur Allen, Jr.	Va.	Dreka, Mary Catherine	D.C.
Douglass, John Frederick	D.C.	Dresher, Lillian Ruth	D.C.
Douglass, John Robert	Va.	Dress, George Kingsbury	Pa.
Doukas, John Michael	D.C.	Dressel, Robert James	D.C.
LL.B. 1948, Harvard University		Dressler, Dorothy Anne	Pa.
Douma, Allene Vartia	D.C.	Drew, Henry Roote Jackson	N.J.
Doutrich, Jewel Elizabeth	D.C.	Drew, Norma Jean	Mont.
B.S. 1940, Oklahoma College for Women		Dries, Edward Thomas	N.Y.
Dove, Claude Warren	D.C.	Drimmer, Miriam Weinberg	N.Y.
Dovel, Alison Hart	N.J.	Drimmer, Saul E.	
Dover, Edward A.	Mich.	B.S. 1940, The George Washington University	
B.S. 1940, Michigan State Normal College		Driscoll, Elizabeth Christine	Maine
Dow, Helen Mae	D.C.	A.B. 1942, Trinity College	
Dow, Howard Fremont	Calif.	Driscoll, Joan	Conn.
Dow, Mary	Va.	Driscoll, John Joseph	D.C.
Dow, Tsung I.	China	Driscoll, Joseph Patrick	Mass.
A.B. 1940, National Central University		A.B. 1941, LL.B. 1943, Harvard University	
Dowdell, Jack Richard	Iowa	Driscoll, Michael Joseph	D.C.
Dowdy, Sam Gene	Md.	Driscoll, Robert Edward	Pa.
A.B. 1946, The George Washington University		Driver, William Joseph	Va.
Dowell, Arthur Edward	D.C.	B.B.A. 1941, Niagara University	
B.S. 1943, Princeton University		Drogan, Stanley John	N.J.
Dowell, Earl Simeon	D.C.	Droll, Henry Andrew	N.Y.
B.S. 1947, University of Illinois		Droney, Paul Vincent	D.C.
Dowling, Dorothy Shreve	D.C.	Droulard, Kenneth Earl	Mich.
Dowling, Nellie Frances	Md.	Druckemiller, Donald James	Va.
B.S. 1931, Columbia University		Drumm, Anna Mary	D.C.
Dowling, Russell John	Va.	B.S. 1946, State Teachers College, Mansfield, Pa.	
Dowling, Walter James	Va.	Drummond, Frank Brown	Va.
Downes, John Pershing	N.Y.	Drummond, Thomas Darrell	D.C.
Downey, Alma G.	Nebr.	Druse, Katharine	Ohio
Downey, Dorothy Adelaide	D.C.	A.B. 1917, Iowa Wesleyan College	
Downey, Jack Ramey	W.Va.	A.M. 1928, Columbia University	

Drysdale, Robert Morrison, Jr. A.B. 1936, Harvard University	Mich.	Duncan, Donald George	D.C.
Dubber, A. E.	D.C.	Duncan, Evelyn Gibson	Va.
Dubester, Dorothy Ennis A.B. 1941, Brooklyn College	D.C.	A.B. in Ed. 1936, University of Georgia	
Dubiel, Joseph Michael B.S. 1938, University of New Hampshire	Va.	Duncan, James Thomas	Ga.
Dubitsky, Rose	Pa.	Duncan, John David	W.Va.
DuBois, Helen Phyllis	D.C.	Duncan, John Kenneth	Va.
DuBois, Jack Edwin	D.C.	A.B. 1947, The George Washington University	
Debno, Edith	Va.	Duncan, John Ogilvy	Va.
DuBroff, Seymour	N.Y.	Duncan, William Edward	Va.
A.B. 1948, The George Washington University		Duncombe, Avis Bailey	D.C.
Ducey, Anne Lowery	N.Y.	A.B. 1940, University of New Hampshire	
A.B. 1935, College of Mount Saint Vincent		A.M. 1941, University of Iowa	Ohio
A.M. 1948, New York University		Dunfee, Bernadine Langdon	
Ducey, David Francis	Va.	B.S. 1930, Wilmington College	Del.
Duchaine, Joseph Alfred Victor	Mass.	Dunlap, Joseph Stephen	
Duck, Jack	Va.	A.B. 1941, Georgetown University	D.C.
Duckett, Richard Baruch	Va.	Dunlap, Ruth Elaine	Md.
Duckworth, Alan Clark	Va.	Dunleavy, Paul Charles	
Duckworth, Pauline	N.Y.	A.B. 1934, St. John's College	
A.B. 1939, Syracuse University		A.M. 1936, The George Washington University	
Dudley, Albert Frederick	D.C.	Dunn, Agnes Laura	D.C.
Dudley, George Hayden	D.C.	Dunn, Arnold	N.Y.
Dudley, Robert Earl	Va.	Dunn, Bertha Wakefield	Va.
Duerksen, Sylvia	D.C.	A.B. 1940, Howard College	D.C.
Dufek, George John	Md.	Dunn, Constance June	D.C.
B.S. 1925, United States Naval Academy		Dunn, Eugene Francis	Calif.
Duff, Alfred James	Pa.	Dunn, Frances Esther	Conn.
A.B. 1947, Pennsylvania State College		Dunn, George Martin	N.Y.
Duff, David Dryden	Tenn.	Dunn, Howard	
A.B. 1948, The George Washington University		A.B. 1936, College of the City of New York	
Duffy, Eugene Michael	Md.	A.M. 1940, Columbia University	
Duffy, Frank Xavier	D.C.	Dunn, Joseph James	Va.
Dugan, Michael Hugh	W.Va.	Dunn, Theodore Franklin	N.Y.
Dugard, Robert Evers	N.J.	A.B. 1948, The George Washington University	
Dugdale, Donna Elizabeth	D.C.	Dunnings, Worth Louis	Md.
Duggan, Edward Vincent	Va.	Dunnington, Elgin Adams, Jr.	Md.
Duggan, John Joseph	N.Y.	Dunphy, Robert Giles	R.I.
DuGoff, Albert Morris	D.C.	Duplinsky, Edward Nicholas	Conn.
Duke, Jesse C.	Va.	Dupont, Christophe Fernand	Wash.
Duke, Norman Edward	Va.	Dupre, Forrest Francis	R.I.
A.B. 1934, LL.B. 1935, University of Notre Dame		Durbin, Sol	Va.
Duke, Thomas Maurice	D.C.	B.S. 1940, Oregon State College	N.Y.
Dulaney, Jean Brownell	Va.	Duroos, Michel	D.C.
A.B. 1936, Wellesley College		Durgen, Franklin Willoughby	Ky.
Dulaski, Benedict Joseph	Mass.	Durham, Mary Sherrill	D.C.
Dulcie, Jerome Joseph	N.J.	Durnbaugh, Evelyn Grace	
Dulkie, Joseph Augustine	Mass.	A.B. 1944, The George Washington University	
Dum, Frank Bryan	Va.	D'Urso, Alfred Mario	Mass.
Dumaine, Gabriel Romain	D.C.	Dutahe, Carl, Jr.	Ohio
A.B. 1948, The George Washington University		Durvet, Joseph Bowden	D.C.
Dumas, Nicole Marguerite		Dusseault, Henry Arne	N.H.
Dumm, Demetrius Gallitain, Jr.	Md.	Dustin, Virgie Lorrain	D.C.
Dumville, Samuel Hall	Va.	Duthie, Charles Lockwood	Va.
A.B. 1936, Randolph-Macon College	D.C.	DuVal, Francis Curtis	Va.
Dunavent, Roy Joseph	D.C.	DuVall, Frederick Wood	D.C.
Dunaway, Edward George	Mo.	Duvall, Mabel Belle	Va.
Dunaway, Hazel Widifred	Mo.	A.B. 1944, The George Washington University	
Dunaway, Helen Elizabeth	Iowa	Dvorak, Gladys Eleanor	Wash.
Dunbar, Anne Cameron	Conn.	Dwars, Meyer	D.C.
A.B. 1942, The George Washington University		Dworshak, Calvin George	Idaho
A.M. 1944, Colorado College		Dworsky, Dena Leigh	Minn.
Dunbar, John Paul	D.C.	Dwyer, Helen Marguerite	Mass.
		Dwyer, Joan Ferguson	D.C.
		A.B. 1948, The George Washington University	

Dwyer, John Joseph	Mass.	Eaton, Jesse Hearne	Pa.
Dwyer, Louis Eugene	Va.	Eaton, Stanley Warren	Va.
B.S. 1948, American University		Eberstarviowa, Alice	D.C.
Dwyer, Maude Rundle	D.C.	Ebert, Charles Randolph	Va.
Dwyer, Vincent William	N.Y.	Ebert, Henrietta Wirt	Va.
Dwyer, Viola Anne	N.Y.	Eby, Susannah	Ohio
Dyberik, Kenneth Harlan	D.C.	A.B. 1945, Goucher College	
Dybing, Hannah Marie	S.D.	M.S. 1947, University of Wisconsin	
Dybing, Myrtle Denise	S.D.	Eccleston, Harold Norrie, Jr.	Md.
Dyck, William Donald	Kans.	Echeverri, Anibal	Columbia
Dyer, James Arthur	Va.	Echols, Irene Myrtle	Ky.
Dyer, Jean Coleman	D.C.	Eckard, Joseph Daniel	N.C.
Dyer, Walter Melvin	D.C.	Eckerle, Richard Lawrence	D.C.
Dysart, Thomas Gilmore	Mo.	Eckert, Virgil Howard	D.C.
B.S. in M.E. 1943, University of Missouri		Eckhoff, Mark Gus	D.C.
Dysland, Robert Carroll	D.C.	B.S. 1948, Georgetown University	
		Elchhoff, Harry Charles	D.C.
		B.S. 1934, Central Missouri State College	
Eadie, James Wharton	Va.	Economon, Poteny	D.C.
Eagan, Frances Ellen	D.C.	Economopoulos, Helen Mary	D.C.
Eagan, Thomas Leggett	Md.	Eddins, Thomas Ottawa	Va.
Eaker, Herbert Lowell	D.C.	Eddins, William Reynolds	Miss.
Eakin, Birch Hitt	D.C.	Edelman, Leonard	N.Y.
Eakin, Edward McCoy	Va.	Edeleschein, Theodore Edward	D.C.
Eanet, Morton Philip	D.C.	Eden, Sara Baker	Md.
A.B. 1947, Yale University		A.B. 1943, Oklahoma University	D.C.
Eareckson, Ruth Brown	Va.	Eden, William Earl	N.Y.
B.S. 1933, Wilson Teachers College		Edenbaum, Robert Lawrence	Mo.
Eaich, Douglas Ray	Pa.	Edens, Maurice Duane	
Earl, Ira Roy	Nev.	A.B. 1948, The George Washington University	
B.S. 1948, Brigham Young University		Eder, Daniel David	N.Y.
Earle, Elizabeth Rebecca	D.C.	Edgar, Jean Nelson	Va.
Earle, Harold Fred	Md.	Edge, Ruth Marianae	D.C.
Earle, John Howard	D.C.	Edington, Wallace Dickinson, Jr.	Md.
B.S. 1943, Pennsylvania State College		Edler, Karl Fredrick	D.C.
Earle, William Kehr	D.C.	Edminster, Noan Israel, Jr.	Maine
B.S. 1940, United States Coast Guard Academy		A.B. 1941, Bates College	
Early, Annie Lola	Ala.	Edmonds, Donald Charles	D.C.
A.B. 1948, The George Washington University		B.S. 1936, Purdue University	
Early, Edmund Ayres	D.C.	Edmondson, Francis Livingston	Fla.
Early, Julius Cherry, Jr.	N.C.	Ph.B. 1924, Emory College	
M.D. 1930, Medical College of Virginia		Edmondson, Mary Beatrice	Miss.
Early, Robert Elliott	Va.	Edmunds, James Bradt, Jr.	Va.
Early, William Eugene	D.C.	A.B. 1941, The George Washington University	
Earmann, John William	D.C.	Edsall, Hanford Meeker	Va.
Earnest, Elmer Dean	D.C.	A.B. 1938, Washington University	Va.
Earnest, John Allen	Ala.	Edson, Franklin Wills	D.C.
B.S. 1943, Alabama Polytechnic Institute		Edsott, Elizabeth	Ill.
Earnheart, Frank Jones	N.C.	Edwall, Warren Emerson	D.C.
A.B. 1947, University of North Carolina		Edwards, Arthur Ralph	Ohio
Earp, Mary Jones	D.C.	Edwards, Benjamin David	
A.B. 1939, University of Richmond		A.B. 1941, Wittenburg College	Calif.
Easley, Sidney Price	Tex.	Edwards, Eldon Leo	D.C.
B.S. 1940, Stephen F. Austin State Teachers College		Edwards, Elizabeth	Va.
East, Virginia Darr	Va.	Edwards, Garth William	S.C.
East, Walter J.	Ind.	B.S. 1939, University of Illinois	
B.S. 1935, United States Naval Academy		Edwards, John Allen	Kans.
East, William Francis	Va.	B.S. 1927, United States Naval Academy	Pa.
A.B. 1939, Western Maryland College		Edwards, Marion William	
Easter, Olivia Sara	Wash.	Edwards, Martha Parker	Md.
Eastman, Adrian Fenley	D.C.	B.S. 1943, Hood College	
Eastman, Samuel Thomas	D.C.	Edwards, Rosaline	
Eastman, William Henry	Mass.	B.S. in Ed. 1934, A.M. 1935, Fordham University	Okla.
B.S. in C.E. 1937, University of New Hampshire		Edwards, Rostand Hurbit	Miss.
Eatop, James Edward	D.C.	Edwards, Walter Robert	
		A.B. 1941, The George Washington University	D.C.
		Edwin, Gabriel	

Students Registered

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Egan, Anna Virginia A.B. 1948, The George Washington University	N.J.	Elf, Martin Arthur	D.C.
Egan, Charles Alfred	D.C.	Elfinan, Walter	D.C.
Egan, Donald John A.B. 1942, Dartmouth University	Va.	Eliades, Elias George	D.C.
Egger, Roscoe Lynn B.S. 1943, Indiana University	Md.	Elias, Jack Isidor	N.Y.
Egert, Irving John	D.C.	B.B.A. 1941, College of the City of New York	
Egleston, Paul Cornwell	D.C.	Eliason, Raymond Orlando	D.C.
Eisloff, Edward	D.C.	Elkin, Anne	Ill.
Eisly, Paul Wesley A.B. 1946, University of California at Los Angeles	Calif.	Elkin, Benjamin	D.C.
Ehlen, George Frederick, Jr.	Oreg.	Elkin, Evelyn	Ill.
Ehlshlager, Adam Charles A.B. 1935, The George Washington University	D.C.	El-Kinany, Mohamed Gamal Eddin	D.C.
Ehrenkrantz, Manoy	N.Y.	Ellenberg, Agnes Elizabeth	D.C.
Ehrhard, Joseph Julius	D.C.	Ellenburg, James Russell	Ky.
Ehrlich, Bernard A.B. 1947, The George Washington University	D.C.	Ellenwood, Robert C.	Va.
Ehrlich, Simon Eugene A.B. 1949, Johns Hopkins University	Md.	B.S. 1943, Ohio State University	
Ehrmantraut, Wilfred Russell B.S. 1948, University of Maryland	Md.	Ellett, Charles Crittenden	Va.
Eichenlaub, Frank Joseph, Jr.	Fla.	A.B. 1948, The George Washington University	
Eicher, Grace Edith	D.C.	Elliott, Donald Merwin	Ill.
Eichlin, William Russell	Pa.	Elliott, Edwin Walter	Pa.
Eichlin, Edward Charles	Md.	Elliott, Evelyn Helen	Belgium
Eicke, Woodward, Jr.	D.C.	Elliott, Frank Carson	Pa.
Elbert, Richard Lyle	D.C.	Elliott, George Algimont	Md.
Ellenberg, David	N.J.	Elliott, Lois	Va.
Eller, Ernest Earl, Jr.	Calif.	Elliott, Ralph Earle, Jr.	Ill.
Ellers, James Paul	Md.	Elliott, Robert A.	D.C.
Elmer, Margaret Hermann	D.C.	Elliott, Robert Stanley	Ill.
Elmer, Wilson Donald	Va.	Elliott, Stephan Lyons	D.C.
Einbinder, John Collum	Va.	Elliott, William Homer, Jr.	N.J.
Einfrank, Samuel	Wis.	A.B. 1940, Wesleyan University	
Einheber, Albert A.B. 1948, The George Washington University	Pa.	Ellis, Calvin Warren	Ark.
Eisenberg, Bernard Carl	N.Y.	Ellis, Carl Edison	Md.
Eisenberg, Evelyn A.B. 1946, Hunter College	N.Y.	Ellis, Henry Herbert	Ohio
Eisenberg, Murray Lawrence B.S. 1940, College of the City of New York	N.Y.	Ellis, James G., Jr.	N.Y.
Eisenburger, Dorothy Evelyn	Ohio	Ellis, John Reavis	Ga.
Eisner, Edith Chelimer A.B. 1946, Duke University	D.C.	Ellis, John Taylor	D.C.
A.M. 1947, Columbia University		Ellis, Marian Bissell	N.Y.
Eisner, Jerome	N.Y.	Ellis, Roberta Anne	Md.
Eisner, Mark, Jr.	N.Y.	Ellis, Ruth Joy	D.C.
Eisner, Robert B.S. 1940, College of the City of New York	N.Y.	Ellis, S. Andrews	D.C.
A.M. 1942, Columbia University		Ellis, Vordie M.	N.C.
Eister, Joseph Owen	D.C.	Ellison, Berny Carl	Iowa
Ekelund, Kenneth Oscar	Md.	Ellison, Charles Dewey, Jr.	Tenn.
Ekendahl, Lillian Mabel	Pa.	Ellowitz, George	Md.
Ekman, Donald Quentin	Minn.	Ellsworth, Robert LeRoy	D.C.
Eliades, William	D.C.	Elman, Audrey Lee	D.C.
Elder, Helen Koch	D.C.	Elman, Josef Katten	N.Y.
Eldredge, Robert Brene A.B. 1948, Duke University	Vt.	El-Modjadidy, Mohammed Shoueh	Egypt
Eldridge, Eugene Russell A.B. 1943, The George Washington University	N.Y.	A.B. 1946, Fand University, Cairo, Egypt	
Eldridge, John Fox	D.C.	Elmore, Willett	D.C.
Eldridge, Richard Adams	D.C.	Elms, Betty Jane	Va.
Eldridge, Robert Louis	Tex.	Elvove, Solomon	D.C.
		B.S. 1948, The George Washington University	
		Elward, Anne Frances	Md.
		Elwood, William Patrick	D.C.
		Ely, Adair Anderson	Va.
		Ely, Marvin Thomas	W.Va.
		Ely, Robert Burroughs	Va.
		A.B. 1930, Emory and Henry College	
		LL.B. 1926, The George Washington University	
		Embler, Ralph Edward	N.Y.
		Embrey, Lemuel Jackson	Va.
		A.B. 1917, The George Washington University	
		Embrey, Thomas Carl	D.C.
		Emch, George Frederick	D.C.
		B.S. 1948, Trinity College	
		Emerson, Charles William	La.
		Emerson, Edyth Hildegard	D.C.

Emerson, George Alexander A.B. 1942, University of New Mexico A.M. 1948, American University	N.M.	Escobar, Blanca Gloria	Puerto Rico
Emerson, Janet	Mass.	Eshleman, Von Russel	Ohio
Emmett, William Joseph	D.C.	Eskenazi, Solomon	N.Y.
Enderlin, Arthur	Hawaii	Eskes, James Norman	N.D.
Ensis, Irene Elizabeth	Mich.	Estes, Juanita Ennis	N.D.
Enever, Grace	Calif.	Eskin, Frederick Leopold	D.C.
Engelman, Phyllis Claire	D.C.	Eskite, Wilbur Henry	D.C.
English, Harry Cole	Md.	Eslinger, Frank Robert	Va.
B.S. 1935, Wilson Teachers College		B.S. 1946, University of New Mexico	Va.
English, Mildred Elizabeth	N.C.	Esmaicher, Harry William	D.C.
B.S. 1946, College of William and Mary		Esparolini, Luis Manuel	Min.
Engelhardt, Charles William	D.C.	Espelund, Adelaide L.	Md.
Engelstad, Julian Barthol	Wis.	Espey, Beatrice Mae	D.C.
Engelthaler, Fred Edward	Ill.	A.B. 1928, University of Nebraska	D.C.
B.S. 1938, Illinois Institute of Technology		Espey, Helen Elizabeth	D.C.
Eagle, Clarence Hess, Jr.	Kans.	Esple, Felipe Angelus	Ecuador
A.B. 1944, University of Kansas		Espinosa, Jose Maria	N.Y.
Engelby, George Bennett	Va.	Essman, Leonard Joseph	D.C.
English, Thomas Young	Tenn.	Essrick, Abraham Joseph	Pa.
A.B. 1910, The George Washington University		LL.B. 1940, College of South Jersey	D.C.
Enia, Thalbert Wright	D.C.	Estanich, Joseph Anthony	D.C.
Ennis, Barbara Elaine	Colo.	Esten, Harold	D.C.
A.B. 1944, Colorado College		Estes, Armand William	Va.
Ennis, Harry Hughes	Vt.	Estes, Carl W.	Md.
A.B. 1948, Brigham Young University		Estes, Harry Arthur, Jr.	Va.
Enriquez, Jean Gordon	Va.	Estes, Myrtle Anna	Va.
Enten, Robert Carl	D.C.	Estes, Richard Kerr	Fla.
Esterline, Esther Marie	D.C.	Esteve, Henry	Md.
Eatler, Edmond Paul	Va.	Ethier, Henry Edward	Va.
Eazor, Thomas Henry, Jr.	D.C.	Eubank, David Sutton	Va.
Eoannou, Nicholas Kosmas	Va.	Eubank, Joyce	D.C.
Epaminonda, John Gaudizio		A.B. 1946, University of Richmond	D.C.
LL.B. 1915, The George Washington University		Eumont, Harry Wesley, Jr.	N.Y.
Eppey, Mary Ellen	D.C.	Eunson, Edward S.	Va.
A.B. 1948, Hood College		A.B. 1946, University of Illinois	N.J.
Epstein, Daniel M.	D.C.	Eustace, William Elmer	Va.
B.S. in Ed. 1939, Wilson Teachers College		Evangelista, Albert	Va.
A.M. 1948, University of Michigan	N.J.	Evans, Albert Harold	Md.
A.B. 1947, New York University	N.Y.	Evans, Carleton Kriete	Del.
Epstein, Joseph Bernard		Evans, Clarence William	Va.
A.B. 1942, The George Washington University		B.S. 1922, University of Delaware	Va.
Epstein, Marion	Mass.	Evans, David Robert	D.C.
Epstein, Matthew Herbert	N.Y.	Evans, Douglas Kibbey	Md.
Epstein, Melvin Douglas	Md.	Evans, Evelyn Colmetz	
Epstein, Milton	N.Y.	Evans, Frank William, Jr.	
A.B. 1948, New York University		B.S. in A.E. 1937, Georgia School of Technology	D.C.
Erenthal, Joseph	N.Y.	Evans, John Penhallow, Jr.	D.C.
Ergas, Isaac	N.Y.	Evans, Joyce Louise	Ark.
B.M.E. 1949, New York University		Evans, Madie Elizabeth	Calif.
Erickson, Patricia Sparks	D.C.	Evans, Myrtle May	Va.
Erickson, Robert Lyle	D.C.	Evans, Opal Augusta	Pa.
Ernst, Edward Cranch	Calif.	A.B. 1910, University of Kansas City	D.C.
Erx, Marjorie Jean	D.C.	Evans, Philip Gordon	
A.B. 1946, Washington State College	Md.	A.B. 1946, Pennsylvania State College	D.C.
Erskine, Ruth		Evans, Richard Judd	
A.B. 1928, Bethany College	Md.	B.S. 1948, The George Washington University	Va.
Ervin, Adelaide Margaret	D.C.	Evans, Robert Lester	Ohio
Ervin, Madge Easton	D.C.	Evans, Richard Timothy	Pa.
Erwin, Hope	D.C.	Evans, Rowland, Jr.	Kans.
A.B. 1947, Vassar College		Evans, Sally Ann	D.C.
Esch, Albert Frederick	D.C.	Evans, Susan Elizabeth	D.C.
Esch, Arthur Gerald	Ill.	Evans, Walker Williams	D.C.
B.S. 1940, United States Naval Academy		B.S. 1919, Presbyterian College	S.C.
		Evans, William George	Ill.
		Evo, Christopher Fitzsimon	
		Even, Francis Alphonse	
		B.S. in M.E. 1942, University of Illinois	D.C.
		Evenson, Marilyn Otis	D.C.
		Evenson, Norma Doris	D.C.
		Everdale, William Edward	

Everding, Charles Jerome	N.Y.	Falk, George	D.C.
Everett, Annie Leora	D.C.	Falk, Morris	Conn.
Everett, Ernest Edward	Va.	Falk, Stephen Ackley	Conn.
Everett, Franklin Milton	D.C.	Falkinburg, Francis Clarence	N.J.
Everett, Gerald Waddell	Miss.	Fallin, Thomas Lee	Fla.
Everett, Phoebe Ruth	Md.	Falloon, James Hugh, Jr.	Nebr.
Everhart, Clarence Edward	Ohio	A.B. 1948, The George Washington University	
B.S. 1948, Western Reserve University		Famous, Priscilla	Md.
Everly, Janice Marie	D.C.	Famulatte, Julius Anthony	D.C.
Evry, Allen	D.C.	Fanck, Elizabeth Marsh	Mass.
Ewan, Edward Theodore	Va.	A.B. 1942, Wellesley College	
B.S. 1947, Southwestern Missouri State Teachers College		A.M. 1947, University of Chicago	
Ewing, Mary Kennedy	Va.	Fanget, Louis Alfred	N.J.
Fwy, Constance Magdalene	Minn.	A.B. 1939, Rutgers University	
A.B. 1941, The George Washington University		Fannan, Helen Ruth	Pa.
Eynon, Lee Ellen	Va.	Fanning, James Joseph	D.C.
Eyster, Marguerite Butts	W.Va.	Fantom, Herman Theodore	Md.
Eytchison, Vernon Leland	D.C.	Farace, Matthew Anthony	D.C.
Emile, L. Jeanette	D.C.	Farbach, Carl F.	Calif.
		A.B. 1933, LL.B. 1936, J.D. 1939, Harvard University	
		Farber, Betty A.	D.C.
Faber, Sidney	N.Y.	Farkas, Howard	Md.
Fabi, Mario Nestor	Pa.	Farley, Julia Marie	D.C.
Fabian, Joseph	Pa.	Farman, Carl Hugh	D.C.
Facinoli, Frank J.	D.C.	A.B. 1923, A.M. 1924, Ph.D. 1931, University of Southern California	
B.S. 1946, West Virginia Institute of Technology		Farmanfarma, Ali Naghi	D.C.
Fackler, Walter David	D.C.	A.B. 1947, A.M. 1949, University of California	
Fadeley, Jane McNeal	D.C.	Farmanfarmaian, Leila	Iran
Fadeley, Marian Elizabeth	D.C.	Farmer, Betty Frances	Va.
A.B. 1948, Mary Washington College		Farmer, Garland Roscoe, Jr.	Tex.
Fader, Kenneth Blair	Mass.	A.B. 1944, University of Texas	
Fagan, Edward Mallon	Ohio	Farmer, Paul Vernon	Mass.
B.S. 1934, United States Naval Academy		Farnsworth, Carl Davis	W.Va.
Fahringer, Victor Thouburn	Va.	Ph.B. 1942, West Virginia University	
Fahrney, Delmer Stater	D.C.	Farnsworth, Carl Jackson	W.Va.
Fahrney, James Bowman	Va.	A.B. 1916, New River State College	
Fahrney, Jane Lee	Va.	Farquarson, Sue Wahle	D.C.
Fahrney, John William	D.C.	Farr, Boyd Joseph	Utah
A.B. 1948, The George Washington University		Farr, Clifton Belle	Ga.
Fahy, John Southworth	Pa.	Farrell, Albert Bernard	D.C.
B.S. 1932, United States Naval Academy		A.B. 1937, University of Maryland	
Faiella, Lawrence B.	D.C.	Farrell, Diane Carolyn	Va.
LL.B. 1926, LL.M. 1927, St. Lawrence University		Farrell, Edgar Henry, Jr.	N.J.
Fain, Martin Robert	D.C.	Farrell, John Joseph	D.C.
Fair, Joseph Stutzman	Va.	B.S. 1946, University of South Carolina	
A.B. 1947, Milligan College		Farrell, Natalie Jean	Calif.
Fair, Martha Christine	Va.	Farrell, Samuel	Conn.
Fair, Robert James	Iad.	Farren, Walter Raleigh	D.C.
A.B. 1947, The George Washington University		Farris, Frederick Joseph	Va.
Fairbanks, Eugene Francis	Mass.	Farris, Raymond	N.C.
Fairchild, JoAnn Shirley	Va.	Farson, John Howard	Md.
Fairchild, John Cyrus	Ky.	A.B. 1936, University of Maryland	
Fairfield, Dean Elburn	Iowa	Farthing, Eunice	D.C.
Faison, Edmund Winston	D.C.	Farwell, Natalie Anna	Va.
A.B. 1948, The George Washington University		Farr, Thomas Franklin	Va.
Faith, Don Carlos	D.C.	Fasiz, Lois Lorena	D.C.
Faith, Ethelyn J.	D.C.	B.S. in Ed. 1932, Ohio State University	
B.S. 1939, Tennessee State Teachers College		Fast, Rita Sandra	N.J.
Falardeau, Thelma Elaine	D.C.	Fastres, Simone Helene	Belgium
Falatico, Thomas Stephen	Pa.	A.B. 1948, The George Washington University	
Falco, Maria Anna Elizabeth	D.C.	Faubion, Urban Hart	Tex.
Faljean, Gregory Joseph	D.C.	B.S. in E.E. 1948, University of Texas	
		Faulconer, John Reynolds, Jr.	D.C.
		Faulkner, Josephine Brock	D.C.
		Faulkner, Richard Fulton	Va.
		Faunce, Margaret Ann	D.C.
		Faurote, Philip Dana	Md.

Fausel, Walter Eugene	N.J.	Fennell, James Francis	Pa.
B.S. 1929, Pennsylvania State College		Fenton, Elizabeth Faulkner	D.C.
L.L.B. 1948, Washington and Lee University		Fenton, Mary Alice	D.C.
Faust, James Emory	D.C.	Fenton, Patricia Joanne	D.C.
A.B. 1948, The George Washington University		Fentress, Jacqueline Regina	D.C.
Faustman, Donald Milton	D.C.	Fentress, Grayson Goldzier	Va.
Faux, William Edwin	Pa.	Fenwick, Paul Robert	Oreg.
Favarella, Fiodie Paul	Pa.	Fenwick, Virginia Anne	Va.
Favinger, Clyde Young	D.C.	Ferber, Ruth Sures	Pa.
Faxon, Glen Shirley	Va.	A.B. 1946, The George Washington University	
Fay, Elmer Royal, Jr.	D.C.	Ferebee, Margaret Louise	N.C.
Fay, Robert Jesse	Ohio	A.B. 1948, University of North Carolina	
B.S. 1942, Massachusetts Institute of Technology		Ferguson, Doris Anne	Va.
L.L.B. 1948, Western Reserve University		Ferguson, Evelyn Merrill	Va.
Fay, William T.	Minn.	B.S. 1946, George Peabody College for Teachers	
Fazebaker, Paul Clayton	Md.	Ferguson, Mary Virginia	Ark.
Feagan, Eugene Riley	Va.	Ferguson, Robert Wallace	Mass.
Fealy, Jack	Ala.	Ferlan, Arthur Perry	N.Y.
B.S. 1947, Birmingham Southern College		B.E.E. 1944, College of the City of New York	
Fealy, John Marvin	D.C.	Fernandez, Hector Enrique	Puerto Rico
Fearnow, John Tyler	W.Va.	Fernandez, Orman Brown, Jr.	D.C.
Feaster, Eston Kermit	W.Va.	A.B. 1942, Colby College	N.Y.
A.B. 1935, Fairmont State College		Fernbach, Donald Joseph	
A.M. 1940, West Virginia University		A.B. 1948, Tusculum College	D.C.
Featherstonhaugh, Arthur Cambroane	D.C.	Fernald, Charles Albert	Va.
Febrey, Albert William, Jr.	Va.	Fero, Donald Alva	N.J.
Federle, Jesse Alan	Nebr.	Ferrara, Gennaro	Pa.
Fedirko, Walter	N.J.	Ferree, Itha Henrietta	D.C.
A.B. 1947, Cornell University		Ferrell, Barbara Ann	Kans.
Fedrizzi, Esther Dolores	Minn.	Ferrell, Charles	D.C.
Feeley, John Joseph	Pa.	Ferrenz, Robert Tirrell	N.J.
Feeney, Joseph Francis	Mass.	Ferri, Raymond Thomas	Okla.
Feenzel, Richard Albert	Ohio	Ferrill, Dale Ray	R.I.
B.S. 1948, Western Reserve University		Ferrill, Grace Cecelia	
Fehrman, Ray Frank	D.C.	A.B. 1948, The George Washington University	
Feinberg, Irving David	N.J.	Ferris, Carlisle Keith	Va.
Feinberg, Leonard Jay		Ferris, Jeanne	Va.
B.S. 1947, Rutgers University		Ferris, Joanne	Va.
Fela, George Henry	Pa.	Ferry, John Paul	
Feld, Gerald Marvin	D.C.	A.B. 1937, B.S. 1938, St. Joseph's College	
Feldman, David	N.Y.	Feschin, August John	Pa.
Feldman, Grace Rae	D.C.	Fetterolf, Wallace Kermit	Pa.
Feldman, Melvin Martin	D.C.	Feula, James Joseph	N.J.
Feldman, Sol Robert	D.C.	Feussahrens, William Henry	D.C.
Feldman, Stanley	D.C.	Feyrer, Nancy	N.J.
Fellicetti, Dominic	R.I.	Fichandler, Zelda Diamond	D.C.
Fell, Rosemary	Pa.	A.B. 1945, Cornell University	
B.S. 1948, American University		Ficken, Rudolf William	Md.
Feller, Harry Phillips	D.C.	Fiddler, Robert William	N.Y.
Feller, Ralph Miles	N.Y.	B.M.E. 1946, College of the City of New York	
Fellers, Catherine Morrison	N.Y.	Field, Jennings Pemble, Jr.	Miss.
Fellers, Raymond David	N.J.	B.S. 1941, Millsaps College	
Fellows, Keith Harrison	Va.	M.S. 1947, Rensselaer Polytechnic Institute	
Fellows, William Albert	Maine	Field, Lawrence Irving	Pa.
Felenthal, Leonard	D.C.	B.S. 1935, College of the City of New York	
B.S. 1938, University of California		Field, Milton Mortimer	N.Y.
A.M. 1940, University of Chicago		B.S. in E.E. 1948, University of Nebraska	
Feltman, David Brown	Va.	Fields, Mary Lou	Va.
Feltman, Robert Ferree	Va.	Fields, Orden Wilson	Calif.
Fender, Ross Calvin	Nebr.	A.B. 1935, University of California	
Fenderson, Ralph Leon, Jr.	Ariz.	Fields, Paul Henry, Jr.	N.C.
A.B. 1942, University of California at Los Angeles		Fields, Roland Carmel	
Fenlon, Raymond Henry	Mich.		
Fenn, Dolores June	N.J.		
Fenn, Geraldine Georgiana	Mont.		
B.S. 1935, South Dakota State College			

Fields, Sidney J. B.S. 1943, The George Washington University	D.C.	Fischer, Harry Carl	S.C.
Fields, Thomas	D.C.	Fischer, John Janos	D.C.
Fields, Victor	N.Y.	Doctor of Law 1932, Hungary	
B.S. 1934, Brooklyn College		Fischer, Noel Leroy	Md.
A.M. 1936, Columbia University		Fischer, Paul Allan	Va.
Fields, William Herold	Va.	A.B. 1934, A.M. 1940, The George Washington University	
Filadelfia, Samuel Joseph	D.C.	Fishman, Morton	Pa.
File, Richard Stewart, Jr.	Va.	Fishman, Morton William	Va.
Files, George Everett	Md.	Fish, Joanne Margaret	D.C.
B.S. 1943, Tutts College		Fishbein, Seymour Leonard	N.Y.
Filipek, Edward Gregory	Mass.	Fisher, Ann Katherine	Va.
Filipowicz, Casimir Anthony	D.C.	Fisher, Barbara Ann	Va.
Filippone, Frank Joseph	Md.	Fisher, Carl William	Ohio
Filippone, Joseph Stephen	N.Y.	Fisher, Dale Richard	D.C.
Filou, Antonio James	N.Y.	Fisher, Don Lorenz	Ill.
B.M.E. 1948, New York University		Fisher, Dorothy Anne	Va.
Fimiani, Joseph Ernest	D.C.	Fisher, Edith Gramling	D.C.
Finamote, Ardis Woodall	N.D.	Fisher, Elise Rosina	D.C.
Finch, Elizabeth	S.C.	A.B. 1942, The George Washington University	
A.B. 1940, Furman University		Fisher, George Harrison	Va.
Finch, Lowell Edwin	D.C.	Fisher, Henry Arthur	W.Va.
Finch, Walter Gilchrist	Md.	A.B. 1943, West Virginia University	
B.M.E. 1940, Johns Hopkins University		Fisher, Henry Estokke	La.
LL.B. 1948, Temple University		Fisher, Hubert Wayne	Pa.
Fincher, Julian Alexander	Md.	Fisher, Ira Philip, Jr.	Pa.
A.B. 1948, The George Washington University		A.B. 1946, Colgate University	
Finders, Lee McLeish	Iowa	Fisher, James Bernard	W.Va.
A.B. 1941, University of Iowa		Fisher, James William	S.C.
Findlay, Karen Elizabeth	Pa.	B.S. 1947, University of South Carolina	
Findley, William Joseph	Wash.	Fisher, John Edward	D.C.
A.B. 1941, M.D. 1947, Texas University		Fisher, John H.	D.C.
Finchblum, Carl Mazoroff	D.C.	Doctor of Laws 1931, University of Prague	
Finchblum, Solomon Sidney	Md.	Fisher, Joseph Lyman	Va.
Pink, Jules	D.C.	B.S. 1945, Bowdoin College	
Pink, Lillian Edmonds	Va.	A.M. 1938, Ph.D. 1947, Harvard University	
B.S. 1947, Farmville State Teachers College		Fisher, Kurt Fritz	D.C.
Finkelstein, Saul L.	N.Y.	Fisher, Margaret Winslow	Va.
Finken, Warren Elroy	D.C.	A.B. 1943, Reed College	
B.S. 1948, University of Wisconsin		Fisher, Mar Louise	Pa.
Finlay, Helen King	Va.	A.B. 1946, The George Washington University	
A.B. 1945, Huntingdon College		Fisher, Mildred Eleanor	Va.
A.M. 1947, The George Washington University		Fisher, Robert Edwin	D.C.
Finlay, John Stewart	Va.	B.S.E. 1945, University of Michigan	
Finley, Charles Truman	Md.	Fisher, Thomas Warren	Md.
Finn, James Carey	Mich.	Fisk, Anna Rebekah	Va.
Finn, John William	Conn.	Fitch, Charles Thomas	Md.
Finn, Robert W. (Jr.)	Mass.	Fitch, Donna Jean	D.C.
Finnegan, Julia Catherine	Pa.	Fitch, Harry John	Md.
Finnell, Albert Thomas	Va.	Fitch, Robert Atwood	Va.
Finnell, Donald Edward	D.C.	B.S. 1946, United States Naval Academy	
Finnell, Marilyn Yvonne	Ill.	Fite, Paul Norman	D.C.
Finney, Audrey Cornell	Va.	Fites, Edward Alonzo	Ill.
B.S. 1939, University of New Mexico		Fittun, Cyrus Folsomer	Ohio
Finney, Charles Barber	D.C.	Fittun, Harvey Nelson, Jr.	Va.
Finney, Robert Ross	D.C.	Fitzgerald, Catherine Germaine	W.Va.
Finney, Robert Sawyer	Ariz.	Fitzgerald, Donald Edward	D.C.
Finrad, Owen Moum	N.D.	Fitzgerald, Jack Phillips	N.C.
Fislek, Jacob Peter	Conn.	Fitzgerald, Paul Albert	N.Y.
Fisramonti, Mary Clair	D.C.	B.S. 1941, LL.B. 1946, St. Johns University	
Fisello, Geraldine Yolanda	Mich.	Fitzgibbon, Donald Savre	N.Y.
Fischbacher, Frederick Stephen	D.C.	Fitzgibbon, James Raymond	D.C.
Fisht, Peter Herzesheimer	Va.	Fitzgibbon, Howard Lee, Jr.	Md.
B.S. 1941, Drexel Institute of Tech. nology		Fitzpatrick, Della Marie	D.C.
Firth, Edward Emery	Va.	Fitzpatrick, Edward James	D.C.
Fischel, Paul Emanuel	D.C.	Fitzpatrick, George Ruddell	Pa.

Fitzpatrick, June	Va.	Florence, John Williams	Wash.
Fitzpatrick, Thomas Joseph	Conn.	B.S. 1934, United States Naval Academy	
Fitzsimons, James William	N.Y.	Flores, Erminia	Kans.
B.M.E. 1942, Polytechnic Institute of Brooklyn		Flores, Paul S.	D.C.
Fitzwilliams, Jeannette Mary	D.C.	A.B. 1948, University of Kansas City	Pa.
A.B. 1934, Vassar College		Flounders, Mary Hall	
Flack, Chester	Va.	A.B. 1948, Radcliffe College	Mo.
Flaherty, Willard Roger, Jr.	Va.	Flournoy, Wilma Jean	Va.
Flake, Howard Oma	Ark.	Flowers, Alonzo Marshall	Mich.
Flakowicz, Karol	N.Y.	Flowers, Carl Vincent	Mo.
Flanagan, Bernard Lawrence	Utah	Flovo, Charles Howard	D.C.
Flanagan, Francis James	D.C.	Floyd, Herman High, Jr.	Mo.
B.Ch.E. 1938, Catholic University of America		Floyd, John Phillip	Mo.
Flanagan, Winifred Winsor	D.C.	Floyd, Percy Mellor, Jr.	N.Y.
A.B. 1946, The George Washington University		Fluger, Alvin	
Flanders, Robert Lee	Tex.	B.M.E. 1947, College of the City of New York	
A.B. 1946, The George Washington University		Flynn, Alfred Filer, Jr.	D.C.
Flannery, Joseph Patrick	D.C.	Flynn, Joseph John	Ohio
Flatford, Faye Evelyn	Okla.	Flynn, Laurence Brenden	N.Y.
Flather, Alfred Chester, Jr.	D.C.	Flynn, Lyman Paul	D.C.
Flato, Matthew	Md.	B.S. in Ed. 1934, State Teachers College, Oshkosh, Wis.	Pa.
Flax, Leonard Harold	Md.	Flynn, Paul Chadwick	Conn.
Flax, Louis	D.C.	Flynn, Winifred Judith	
B.S. 1943, University of Maryland		A.B. 1943, Albertus Magnus College	Md.
Flax, Miriam Audrey	N.Y.	Fochios, Steve Evangelos	Wis.
Flichel, Kurt Otto	Mich.	Foeller, Paul Francis	D.C.
Flecknoe, Harold Joseph	Pa.	Foerster, Herbert G.	Pa.
Fleetwood, George Harlan	Del.	Foerster, Mary Agnes	D.C.
Fleischhaker, Albert	D.C.	Fogarty, Charles Francis	D.C.
B.E.E. 1940, College of the City of New York		Fogel, Geraldine Frances	D.C.
Fleischman, Ruth	D.C.	Fogelgren, Agnes Marie	D.C.
Fleishell, William Sheldon	D.C.	Foglia, Louis Anthony	D.C.
Fleisher, Eric Wilfred	D.C.	Fognano, Carmin Oscar	
Fleishman, Irving	Pa.	B.S. 1934, Temple University	D.C.
Fleming, Edward John	Va.	Foldenauer, Robert Carl	Va.
Fleming, Edward Tephinxy	D.C.	Foley, Annette Haworth	
Fleming, Gerald Richard, Jr.	D.C.	B.S. 1948, Wilson Teachers College	D.C.
Fleming, Hazel Marion	D.C.	Foley, George Vincent	N.Y.
Fleming, Lester LeRoy	D.C.	Foley, James Kiran	D.C.
Fleshman, Wilfred Edwin	D.C.	Foley, Michael Edward	D.C.
Fletcher, Bennie Lyle, Jr.	Calif.	Foley, Thomas Emmett	D.C.
Fletcher, Darrell Wade	Va.	Foley, Walter Allen	Mo.
Fletcher, Gordon Arthur	Md.	Foley, William John	
Fletcher, Lloyd Lee	Vi.	B.S. in M.E. 1948, Missouri School of Mines	D.C.
Fletcher, Maurice Clinton	D.C.	Follman, Arthur Usher	Fla.
Flexer, Morton	Va.	Folse, Kenneth Hemke	D.C.
Flick, Chester Eugene	N.Y.	Folsom, Dee Elwood	
Flieger, Howard Wentworth, Jr.	D.C.	B.S. 1948, Wilson Teachers College	N.Y.
Flinchu, Walter Madison	Md.	Foltz, John Frederick	D.C.
Fling, Gloria Katherine	Va.	Foncannon, Lucille Rix	
Fling, Martha Kathryn	D.C.	A.B. 1941, Western Michigan College of Education	Puerto Rico
Fling, Richard Benjamin	Ga.	Font, Manuel Antonio	Va.
Flinn, Samuel Roy	D.C.	Fontaine, Guy Edward	D.C.
Flint, Delbert Harrison	W.Va.	Fookson, Abraham	
A.B. 1934, Salem College	W.Va.	B.S. 1917, College of the City of New York	Mont.
Flint, Esther Roliz	D.C.	For, Milton Arlo	
Flint, George M.	Mass.	A.B. 1947, University of Southern California	Calif.
A.B. 1940, Harvard University		Foot, Richard Harold	Va.
LL.B. 1945, The George Washington University		Foot, Vernon Stuart, Jr.	D.C.
Fliso, Richard Konrad	Wis.	Forbes, Ann Katherine	
Flizanes, John	D.C.	A.B. 1944, Trinity College	Va.
Flood, Robert Edmund	Md.	Forbes, John Terence	D.C.
Flood, Thomas Hayes	D.C.	Forbush, Constance Winthrop	Md.
B.S. in Ed. 1936, Buffalo State Teachers College		Forcum, James Evans	W.Va.
		Ford, Evelyn Jean	N.J.
		Ford, John Joseph	

Ford, Virginia Gless	D.C.	Fox, John Francis	D.C.
Fordham, Frank James	D.C.	Fox, John Robert	D.C.
Foreman, Charles Norbet, Jr.	Va.	Fox, Lawrence	N.Y.
B.S. 1947, Dickinson College		A.B. 1944, Clark University	
Foreman, Joan Maxine	D.C.	M.S. 1945, Syracuse University	
Foreman, Mary Ann	Va.	Fox, Lillie Belle	Tex.
Forester, Joseph Elwood	Va.	Fox, Margaret Helen	D.C.
Forgy, William James	Va.	Fox, Ray Paul	Pa.
Forman, Edward	Va.	A.B. 1942, Pennsylvania State College	
A.B. 1942, College of the City of New York		Fox, Saul Aaron	N.Y.
Forman, Leonard	N.Y.	Fox, Sylvia C.	Va.
B.S. 1940, College of the City of New York		A.B. 1934, University of Utah	
Forman, William Marion	W.Va.	Fox, William Allan	Va.
Fornal, Theodore	N.J.	Fraber, Joseph Drew	D.C.
A.B. 1948, The George Washington University		Frahm, Herbert Standish	D.C.
Forney, Edward Hanna	Md.	Frahm, William, Jr.	D.C.
B.S. 1931, United States Naval Academy		Frakes, William Robert	Ill.
Forrest, Herbert Emerson	N.Y.	Fralic, John Eugene	D.C.
A.B. 1948, The George Washington University		Frampton, James Elsworth	Ind.
Forrest, Robert Petch	Conn.	France, James Arthur	N.Y.
Forrester, Robert Dwight	D.C.	A.B. 1932, Houghton College	
Forberg, Frances Chandler	Pa.	M.S. in Ed. 1940, University of Buffalo	
Forsht, Samuel Irvin, Jr.	D.C.	France, Sarah Catherine	Mo.
Foster, Eric Bert	D.C.	A.B. 1930, University of Missouri	
Forsyth, Paul Eugene	Pa.	B.S. in L.S. 1940, Columbia University	
Forsythe, Frederick Walter, Jr.	Md.	Francis, Clifford Dale	Va.
Fort, Anna Beulah	D.C.	Francis, Lewis Watkins	Va.
B.S. 1944, Wilson Teachers College		B.S. in B.A. 1943, University of Missouri	
Fort, James Frazier	Tenn.	Francis, Mary Jane	Va.
Fortinberry, George Kellie, Jr.	D.C.	Francis, Milton John	D.C.
Fortner, Bernard Semple	D.C.	Francis, William McCafferty	Va.
Fortney, Gordon	Va.	Frank, Roger Edward	Mass.
Fortugno, Alfred Eugene	N.J.	Frank, Arnold Roy	Md.
Fortune, William Charles	N.C.	A.B. 1926, A.M. 1928, Johns Hopkins University	
Forward, Myron Hal	Va.	Frank, Clay Farrar	Va.
Fosmark, Stephen Douglas	Va.	Frank, Jean Lucille	D.C.
A.B. 1935, Macalester College		Frank, Kitty Blair	D.C.
Foss, Willard Emmons, Jr.	Va.	A.B. 1941, University of Wisconsin	
Foster, Earl, Jr.	Okla.	Frank, Phyllis Maureen	D.C.
A.B. 1940, L.L.B. 1946, Oklahoma City University		Frank, Robert Berliner	D.C.
L.L.M. 1948, The George Washington University		A.B. 1940, University of North Carolina	
Foster, Elizabeth Jane	Ohio	Frank, Rose Magdalene	R.I.
Foster, George Howard	D.C.	Frankel, Abraham	N.Y.
B.S. 1942, United States Naval Academy		B.S. 1935, Brooklyn College	
Fouter, James Buck	Md.	B.M.E. 1941, Cooper Union College	
Foster, James Patrick	D.C.	Frankel, Josef Hirsch	D.C.
Foster, Jessie	Va.	Franklin, Jerome Curtis	Va.
Foster, Marion Julian	Va.	Franklin, Jordan	Mass.
B.S. 1949, University of Virginia		B.S. 1946, Worcester Polytechnic Institute	
Foster, Robert Russell	Ohio	Franklin, Joseph Gardner	Md.
Foster, Stafford Clark	D.C.	A.B. 1948, The George Washington University	
B.S. 1948, University of North Carolina		Franklin, Maryjo	Md.
Foster, Sylvia Elizabeth	Va.	Franklin, Nancy	D.C.
Foster, William Hecker	D.C.	Franklin, Philip Earle	D.C.
Fotouhi, Abol Fasl	D.C.	Franklin, Rufus Matteson	R.I.
Fouche, James Edwin	Va.	B.S. 1942, Massachusetts Institute of Technology	
Foust, Betty Jean	D.C.	Franks, Daise	D.C.
Foutz, Leslie Robert	D.C.	Franks, Richard Sterling	N.J.
Fowler, George Clinton, Jr.	D.C.	Frans, William Charles, Jr.	D.C.
B.S. 1941, Georgetown University		Franzman, Carl Walter	Va.
Fowler, Jessie Lorraine	D.C.	Fraser, Donald Brix	Md.
Fowler, John Wesley	Md.	Fraser, Donald Ross	Ohio
Fowler, Thomas	D.C.	Fraser, George Roderick	Mich.
Fox, Edward Louis	Okla.	Fratkin, Rayleona	D.C.
		Fratt, Nicholas Diller	D.C.

Frawley, Agnes Ann	D.C.	Freyeisen, Rudolf Charles	Md.
Freas, William John, Jr.	D.C.	Freyneck, Arthur Julius	Md.
Frech, Donald	D.C.	B.S. 1943, Muhlenberg College	Va.
Fredericks, John Rampariekian	British Guiana	Friauf, Helen Cox	
Fredlund, Robert Richard	Va.	A.B. 1947, The George Washington University	W.Va.
Fredricks, Ilet Henry	Okla.	Frick, Charles Ellis	D.C.
Fredricks, Robert Emmett	N.D.	Frick, Josephine Elizabeth	Ill.
B.S. 1946, United States Naval Academy		Frick, Warren Allen	Md.
Fredrickson, Ferne Oscar	S.D.	Frid, Louis Irvin	Pa.
Free, Adele Blaine	N.Y.	Friday, Edith Marguerite	Va.
Freed, Fred Philip	Mass.	Fridinger, Arthur Boteler, Jr.	Md.
Freed, Richard Howard	Conn.	Fried, Alfred Sigmund	D.C.
Freedland, Sumner	D.C.	Fried, Alvin Bartlett	N.Y.
Freedman, Frances Nadler	D.C.	Fried, Edward Robert	
Freedman, Herbert Eugene	N.J.	A.B. 1941, University of Michigan	Md.
Freedman, Jerome Bernard	D.C.	Fried, Maurice	
Freedman, Loretta	D.C.	B.S. 1941, M.S. 1945, Cornell University	
Freedman, Norma Clare	D.C.	Ph.D. 1948, Purdue University	D.C.
Freedman, Samuel Sumner	Conn.	Friedlander, Ina Ruth	Va.
Freedman, William	N.C.	Friedlander, Blaine Peyser	
B.S. in M.E. 1945, Duke University	Va.	B.S. 1948, University of Virginia	N.Y.
Freeman, Aaron Elliott	D.C.	Friedlander, Harold	
Freeman, Franklin	Ga.	B.S. 1934, College of the City of New York	
Freeman, Harlan Edwin	Md.	A.M. 1939, The George Washington University	D.C.
Freeman, Horatio Putnam		Friedman, David B.	D.C.
B.S. 1947, Dickinson College	Va.	Friedman, Edna May	
Freeman, James Thomas	Mass.	A.B. 1935, Barnard College	Brazil
Freeman, Lawrence Dudley	Va.	Friedman, Eva	D.C.
Freeman, Leon Harvey	Del.	Friedman, Gerald	D.C.
Freeman, Marianne Virginia		Friedman, Harold Aaron	N.Y.
B.S. 1948, The George Washington University	N.C.	Friedman, Leonard S.	
Freeman, Mary Blanche		B.S.S. 1947, College of the City of New York	N.J.
A.B. 1944, Woman's College of the University of North Carolina	D.C.	Friedman, Lila Golda	N.J.
Freeman, Mary Eleanor	D.C.	Friedman, Martin Leonard	
Freeman, Merritt Emery	N.Y.	A.B. 1939, Rutgers University	D.C.
Freeman, Rhoda Golden		Friedman, Morris	N.Y.
A.B. 1948, Hunter College	N.Y.	Friedman, Norman	
Freeman, Robert Mendel		B.M.E. 1945, College of the City of New York	N.Y.
B.E.E. 1944, College of the City of New York	N.Y.	Friedman, Seymour Jack	N.Y.
Freeman, William Clarence, Jr.	N.Y.	Friedman, Sidney	
Freer, Barry	Ohio	A.B. 1939, Brooklyn College	Md.
Freese, Herbert Allan, Jr.	N.J.	Friedman, Sol	Md.
Freesland, Jacob William, Jr.	Va.	Friedmann, Paul Frederick	Maine
Freidin, Harold Richard	D.C.	Friel, Colleen Gertrude	N.Y.
Freidlin, Julius Norman	Fla.	Fries, James Richard	D.C.
A.B. 1930, Duke University		Fries, Lawrence Francis	Pa.
Freise, Robert Eugene	Md.	Frigione, Florence Olympia	Pa.
Frembo, John	Va.	Frigione, Rose Marie	D.C.
French, Marjorie Grace	D.C.	Frillman, Florian Edward	Norway
A.B. 1926, Ohio State University		Friech, Rolf Andvord	Va.
French, William E.	D.C.	Frischmann, Donald William	
French, William Thomas	Fla.	B.S. in Ed. 1943, State Teachers College, Indiana, Pa.	D.C.
B.Ch.E. 1943, University of Florida	N.Y.	Frisman, Karl Herbert	Pa.
Frankel, George L.	Va.	Fritchman, Thelma Alice	N.Y.
Freret, Betty Strachan		Frite, Sigmund	
B.B.A. 1943, Tulane University	D.C.	B.S. 1934, Brooklyn College	
Freeman, Phyllis Langlitt	Mass.	M.S. 1941, Massachusetts Institute of Technology	Va.
Freeman, Rose Alcaraz	Va.	Fritz, Charles Walter	Va.
Freshman, Arthur Samuel	Wis.	Fritz, Edmund William	Iad.
Freudenberg, Harold William	Ill.	Froslich, Kathryn	
Freudenberg, Maxwell Charles		A.B. 1943, Evansville College	D.C.
B.S. in E.E. 1948, University of Illinois	N.J.	Frohman, Alice Patricia	D.C.
Freund, Harris	N.Y.	Frohman, Mary Satterlen	N.J.
Freundel, Milton	Va.	Froio, Frances Marie	
Frey, Fred Marquis	N.Y.		
Frey, Helen G.	N.Y.		
Frey, Kathryn Helen	Oreg.		
Frey, Quentin Victor, Jr.	Pa.		

Students Registered

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Frome, Julius B.S. 1936, College of the City of New York	D.C.	Futoran, Josef B.S. 1935, M.S. 1936, College of the City of New York	N.Y.
Frost, Jack Arthur	D.C.	Futovsky, Carolyn Kate	D.C.
Frost, John Dean	Iowa	Futterman, Sidney	Md.
Frost, Juliet	D.C.		
Fry, Elmer Charles	Kans.		
Fry, Ernest William	D.C.	G	
Fry, Eugene Nathan	D.C.	Gabella, Josephine Caroline	Pa.
Fry, George Edward	D.C.	Gable, Richard Bennett	S.C.
Fry, Gorman Dean	D.C.	Gable, Robert Barth	Pa.
Fryberger, Elbert Lee B.S. 1923, United States Naval Academy	Colo.	Gabletsa, Mary Jane A.B. 1927, Wellesley College	N.H.
M.S. 1930, Harvard University		Gabriel, Henry	D.C.
Fryer, Alison Wolfe	Va.	B.S. 1934, Long Island University	
Fryer, Dorothea Constance	D.C.	Gabrielian, Parviz	D.C.
Fryer, Norman Ewins, Jr. B.S. 1938, United States Naval Academy	Md.	Gabresh, Andrew Francis	Pa.
Fuchs, John Edward, Jr.	D.C.	Gaertner, Robert Montague	D.C.
Fuchs, William George	N.J.	Gaetano, Anthony	Md.
Fudge, Russell Oliver	Va.	Gager, Charles Cotter, Jr.	D.C.
B.S. 1931, University of Missouri		Gagliano, Robert Chester	D.C.
Fuehrer, Virginia Bernice	Nebr.	Gagnon, Henry, Jr.	D.C.
Fukate, John Paul	D.C.	Gail, William Albert	Va.
Fugle, Kathryn Mary B.S. 1948, Catholic University of America	N.Y.	B.S. in M.E. 1948, University of Illinois	
Fulcher, Robert Allison	Conn.	Gallard, Monica Blodgett	D.C.
Fulcher, Robert Clinton, Jr.	Md.	Gainen, Leon	N.Y.
Fulesdy, Charles Andrew	Pa.	Gaines, Robert Wesley, Jr.	Va.
Fuller, Charles Edward	N.Y.	Gaines, William Embrey	D.C.
Fuller, Frank Gardner	R.I.	Gaines, William Marion	D.C.
B.S. 1939, Aurora College		Gailey, Burton Allen	D.C.
A.M. 1947, The George Washington University		Gaisnev, Dassel Francis	Pa.
Fuller, George Tucker	D.C.	Galar, Morton Robert	N.Y.
Fullerton, Jay	Va.	B.E.E. 1946, College of the City of New York	
Fullerton, Wilmer Renrick	Ala.	Gale, Thomas Boyle	Va.
Fulmer, Donna Marie	Pa.	B.S. 1917, United States Naval Academy	
Fulton, Alice Catherine	Okla.	Galeano, Charles Joseph	Md.
A.B. 1947, University of Colorado		Galer, Melvin	Mass.
Fulton, Gladys Mae	D.C.	Galinis, Victor John	N.Y.
B.S. 1927, University of Nebraska		LL.B. 1941, Georgetown University	
Fulton, Leroy Edgar	Calif.	Gall, Amos Hamilton	W Va.
Fulton, Martha	D.C.	Gallagher, Barbara Blaine	D.C.
Fulton, Richard James	Md.	Gallagher, Bernard Francis	Va.
Funderburk, Charles Wade	S.C.	Gallagher, Joan Maciotta	Va.
Funk, James Samuel	D.C.	Gallahue, John Thomas	Va.
Funk, Richard Hodges	Kans.	Gallant, Arthur	N.Y.
Funk, Frederick, Jr. B.S. 1927, United States Naval Academy	D.C.	Gallart, Mendia Rafael	D.C.
Funkhouser, Claude	Md.	Galleros, Eleuterio Valdemar	N.M.
B.S. in M.E. 1945, University of Missouri		Galleros, Ernest Eugene	D.C.
Funkhouser, Kathryn Luther	S.C.	Galleran, Albert William	Mass.
Funkhouser, Robert Elmer	Va.	Gallien, Hazel H. A.B. 1947, Glenville State College	W Va.
Funt, Tobias Roger	N.Y.	Gallo, Raphael Edmund	N.Y.
A.B. 1938, University of Missouri		Gallo, Millard Lucien	D.C.
Furber, Mildred	Mass.	A.B. 1928, Harvard University	
Furlow, Thomas William	Ark.	Galloway, Clark Hamilton	N.Y.
Forman, Eugene Marvin	D.C.	Galloway, Esther Augustine	N.C.
Forman, Paul Larry	D.C.	Gallup, Elizabeth Hale	D.C.
Forsdon, Robert Henry	D.C.	Gallup, Meredith Hale	D.C.
Furst, Edward Albert	Md.	Galper, Robert	D.C.
Furst, Howard Irving	Calif.	Galska, Sophie Justine	D.C.
A.B. 1942, University of California at Los Angeles		Galsin, William Michael, Jr.	Conn.
Furtado, Laura	Mass.	Galych, Theodore Richard B.S. 1946, Villanova College	
Fusillo, Matthew H. B.S. 1948, University of Maryland	Md.	Gamaache, John Arthur	Mich.
		Gambal, Senius	D.C.
		Gambile, Harry Hopkins	Md.
		Gamble, Joseph Parker	Va.
		Gamboa, Edwin Francis	Philippines
		Gamboa, Lionel Kenneth	Philippines
		Gamboa, Melquiades Irving, Jr.	Philippines
		Gamboa, Pearl Grace	Philippines

Gankoski, Irene F. B.S. 1947, Ohio State University	Ohio	Garrett, Elizabeth Anne Garrett, Emily Quillan	Va. Ga.
Ganley, John Leo, Jr.	Va.	A.B. 1943, University of Georgia	Tex.
Gannon, Albert William	N.J.	Garrett, Mary Jo Halsell	D.C.
Gannon, Patricia Olive	D.C.	A.B. 1948, University of Texas	D.C.
Gano, Roy Alexander	Va.	Garrett, Patricia Ann	D.C.
Gana, George Marshall B.S. in C.E. 1931, University of Missouri	Mo.	A.B. 1948, The George Washington University	D.C.
Gans, Joan Regine	N.Y.	Garrett, Paul Weatherly	D.C.
Gant, Jessie Florence	Ill.	Garrett, Ralph Henry	D.C.
Gantz, Gertrude Soule A.B. 1935, Yankton College	Md.	Garrett, Rufus Sanders, Jr. B.S. 1946, United States Military Academy	Tex. N.J.
Gantz, Richard Farrand	D.C.	Garrigan, Myles Robert	N.J.
Garber, Edythe Alyne A.B. 1939, The George Washington University	D.C.	A.B. 1948, The George Washington University	Ill.
Garber, John Jacob	D.C.	Garrin, Millard Barnette	Kans.
Garcia, Antonio	D.C.	Garriott, Juanita E.	D.C.
Garcia, Joe Gilbert	D.C.	Garrigues, Frances Aileen	Mass.
Garcia, Manuel Gilberto	Ariz.	Garrison, Josephine Ruth LL.B. 1943, National University	Mich.
Garcia, Max Rodriguez	D.C.	Garria, Jack J. A.B. 1947, University of Michigan	Md.
Garcia, Pilar A. B.S. in B.A. 1941, University of the Philippines	Md.	Garrison, Lynn Willard	Ky.
Garcia, Robert	Vt.	Garrison, Melford Lee	D.C.
Garcia-Frias, Roque	D.C.	B.S. 1943, University of Kentucky	D.C.
Gard, John Glennwood	N.C.	Garrison, Milton Eldridge	Nev.
Gardner, Benjamin Franklin, Jr.	Md.	Garro, Edward Joseph	D.C.
Gardner, Edith Rose A.B. 1943, University of California at Los Angeles	Va.	Gartner, Robert Martin	Md.
Gardner, George Henry, Jr. B.S. 1945, United States Naval Academy	Mass.	Gartrell, Archibald, Jr. Garver, Clifford Elliott	S.D. Iowa
Gardner, Marshall Closson	Ind.	Garwood, Charles Roscoe A.B. 1934, Coe College A.M. 1939, University of Michigan	Mexico Va. Pa.
B.S. 1943, The George Washington University	Ark.	Garza, Celedonio Marcelino	Mass.
Gardner, Sophia Schneider B.S. 1936, New York University	Mich.	Garziglia, Bernard John	Md.
Gardner, Spencer Delos	Mass.	Gaud, Bernard Herbert	D.C.
Gareau, Charles Frederick B.S. in M.E. 1939, The George Washington University	D.C.	Gash, Seymour Herbert	D.C.
Garfinkle, Melvin	N.J.	Gaskins, Marion Rutledge	D.C.
Gargano, Fred Patrick B.S. 1947, The George Washington University	D.C.	Gaskins, Richard Hancock	D.C.
Garges, Ellen Clare	W.Va.	Gass, Charles	D.C.
Garges, Wilbur Lawrence, Jr.	D.C.	Gass, Louis	Mo.
Gargus, James Leon	D.C.	Gassner, Florence Dorothea	Va.
Garhart, Bernard Howard B.S. in Ed. 1936, State Teachers College, Slippery Rock, Pa.	Md.	Gates, Charles Wilbur A.B. 1949, Syracuse University	Va.
Garlock, Edward Allen B.S. 1943, The George Washington University	D.C.	Gates, Elizabeth Kingsolver B.S. 1942, Madison College	Pa.
Garner, Alice Elizabeth	D.C.	Gates, James Lauren A.B. 1947, Pennsylvania State College	Calif.
Garner, Frederick Reed	D.C.	Gates, John William	Va.
Garner, George William	D.C.	Gates, Mark Moses	Va.
Garner, Louis Herbert	N.C.	Gates, Ruth Marie	Ky.
Garner, Roland Malcolm	Md.	Gates, Walter Samuel A.B. 1943, Centre College	Va.
Garner, Yancy Holmes	Va.	Gates, William Baxter	Miss.
Garnett, Carroll Marion B.S. 1948, The George Washington University	D.C.	Gatewood, Mary Walker	D.C.
Garnett, James Harper Poor A.B. 1946, University of Virginia	D.C.	Gatlin, Daniel Ray B.S. in M.E. 1946, University of South Carolina	Mass.
Garrahan, Norman	D.C.	Gatto, Victor E. B.S. 1940, Harvard University	Mass.
Garrett, Anthony Matthew, Jr.	N.C.	Gaudet, Richard Austin B.S. 1947, University of Rochester	N.Y.
Garrett, C. Donald B.S. 1931, Franklin and Marshall College	Va.	Gaughan, Vincent Michael	Md.
		Gault, Edward Sidney A.B. 1936, Western Maryland College S.T.B. 1938, Western Theological Seminary	Md.
		Gaus, Arthur B.S. in E.E. 1933, Drexel Institute of Technology	Md.
		Gauvin, Edward Joseph	D.C.
		Gaviria, Fernando	

Gavrilov, Lora	D.C.	George, George Ezekiel	D.C.
Gavrisheff, Ellen	D.C.	A.B. 1943, Harvard University	
A.B. 1944, Our Lady of the Lake College		LL.B. 1948, The George Washington University	
Gay, Hazel Stafford	Va.	George, Harry Clair	Ohio
B.S. in Ed. 1942, Teachers College, Farmville, Va.		B.S. 1944, Mount Union College	Va.
Gaylor, George Wylie	Md.	George, James Barron	
Gaylord, Marian Dagnum	Va.	A.B. 1948, College of William and Mary	
B.S. 1940, Florida State University		George, Joan Marjorie	Va.
Gaynor, Donald Bernard	Md.	George, Joseph Homen	Mass.
Gearhart, Robert Aaron	Va.	George, Marie Anne	D.C.
Gearheart, Ernest Theodore, Jr.	Va.	George, Richard Bennett	Va.
A.B. 1936, University of Richmond		George, Robert B.	Va.
Gearing, Sinclair Gannon	Md.	B.S. 1940, Bucknell University	
Gechter, Bernard Joseph	Va.	A.M. 1948, The George Washington University	
A.B. 1939, University of Connecticut		Geisler, Henry Leonard	Venezuela
Gedney, Platen Tayloe	D.C.	Bachelor 1945, Champagnet College, Colombia	
Ge, Mary Frances	D.C.	Georgevitch, Theodore Alexander	D.C.
A.B. 1929, Randolph-Macon Woman's College		Georgion, Melton Michel	N.C.
Geer, Audre Clare	Va.	Geralis, Helen	D.C.
Geesa, Mary Cobbs	D.C.	B.S. 1948, Wilson Teachers College	
A.B. 1928, Mount Union College		Gerbie, Albert Bernard	Ohio
Geelin, Ernest L.	Ga.	Gerbold, William Franklin	D.C.
Gehrman, Charles Phillip	Md.	Gerende, Jean H.	Mich.
Geib, Esther Danhower	Md.	B.S. 1928, Bay City College	
B.S. in Ed. 1916, State Teachers College		M.S.P.H. 1940, University of Michigan	
Geib, Lester Myron	Md.	Gerende, Lincoln Jennings	Mich.
Geier, Conrad Schroeder, Jr.	Va.	Gerhard, Edmund James	Va.
Geier, Paul Henderson	D.C.	Gerhardt, Robert Bernard	Ill.
Geiger, Herbert George	Wis.	B.S. in M.E. 1947, Northeastern University	
Geigle, Ralph Calvin	D.C.	Gerker, Nellie May	Va.
A.B. 1935, Susquehanna University		Gerlinger, Melvin George	D.C.
A.M. 1940, Columbia University		German, Waldo Ross	Md.
Geisel, Magdalen Ruth	Wis.	Germas, Demosthenes James	Va.
Geiser, Anton	D.C.	Gerry, Joseph Harrison	Mass.
Geiser, Jesse Browning	D.C.	Gershenson, Leo F.	D.C.
Geisler, R. Gene	D.C.	B.B.A. 1942, College of the City of New York	
Geisler, Harry Conrad	N.J.	Gersten, Harold	Conn.
Geist, John Henry	Va.	Gerstin, Marvin Joel	D.C.
Gekker, Catherine Osann	Md.	A.B. 1947, The George Washington University	
Gekker, Paul Abraham	D.C.	Gertz, Louise Helene	D.C.
A.B. 1948, The George Washington University		Gervasio, James Robert	N.I.
Gelak, Bernard Andrew	N.Y.	Gessow, Irving David	Pa.
B.S. in E.E. 1947, Syracuse University		B.Ch.E. 1910, College of the City of New York	
Geller, Irving	N.I.	M.S. 1946, University of Pennsylvania	
Gelles, Marvin Irving	D.C.	Getsinger, Richard Gordon	Md.
Gelly, George Vaughan	D.C.	Gettya, Richard Forsyth	W.Va.
Gelman, Robert Milton	N.J.	Getz, Ralph Edward	D.C.
A.B. 1942, New York University		Gever, Wallace Thomas	D.C.
Geloso, Samuel Theodore	N.Y.	Gheesling, William Marvin	Gi.
Gemmell, Ronald Harvey	Calif.	Ghormley, Edward Longstreth	D.C.
Gemza, Theodore Anthony	Conn.	B.S. 1944, University of Washington	
Gendason, Esther	D.C.	M.S. 1946, Massachusetts Institute of Technology	
Generelly, Richard Fleury	D.C.	Giancaspro, John	D.C.
Genise, Josephine V.	Conn.	B.S. 1942, College of the City of New York	
Genthner, Elinor Hale	Mass.	Giancason, Angelo Andrew	N.Y.
Gentile, Augustine	Pa.	Giani, Angela	D.C.
Gentner, Evelyn Gifford	D.C.	Giancone, Charles	N.I.
Gentner, Walter Andrew	D.C.	Giankakis, Peter	N.Y.
Gentry, Bernard Wilson	D.C.	Gibbons, Della Sue	Va.
Gentry, Paul Kemper	Va.	Gibbons, Mary Graf	N.Y.
A.B. 1924, Randolph-Macon College		A.B. 1940, Allegheny College	
George, Annabelle	D.C.	Gibbons, Patrick Joseph	D.C.
George, Desmond Alvis	Va.		
B.S. 1941, Stephen F. Austin State Teachers College			

Gibbs, Edward Charles	D.C.	Gill, Edward Francis	Del.
Gibbs, John William	D.C.	Gill, Grover Bache	D.C.
A.B. 1946, The George Washington University		Gill, Peter Lawrence	Md.
Gibbs, Julian Glenwood	D.C.	B.S. 1942, Harvard University	D.C.
Gibbs, Ray Allison, Jr.	D.C.	Gillard, William Henry	D.C.
Gibbs, Richard DeArmond	Va.	Gillilan, Marfred Elwood	D.C.
A.B. 1947, The George Washington University		Gillespie, Constantine John	Ky.
Gibbs, Robert H.	N.C.	Gillespie, Elizabeth R.	D.C.
B.S. in Ed. 1942, Appalachian State Teachers College		Gillespie, George John	Va.
Gibbs, Robert Stewart	N.Y.	Gillespie, Paul Edmund	Tenn.
Gibbs, Verne Wesley	Calif.	Gillespie, Ruth Joyce	Va.
Gibney, Edith Cecelia	Pa.	Gillette, Kirby Marvin	
Gibson, Franklin Pierce	Va.	A.B. 1911, University of Michigan	
Gibson, James Frederick	Va.	LL.B. 1937, Wayne University	Va.
Gibson, James Wallace	Va.	Gillette, Nadine Gray	Mont.
B.S. 1941, Hampden-Sydney College		Gillette, Noeth Bolling	D.C.
Gibson, John M.	Pa.	Gillette, Warren	
B.S. 1914, Washington and Jefferson College		B.S. 1942, California Institute of Technology	Ill.
Gibson, Mary Hiden	Va.	Gilliam, Frank Peter	
B.S. 1940, College of William and Mary		B.M.E. 1937, Catholic University of America	Va.
Gibson, Paul	D.C.	Gilliam, Homer	Ohio
Gibson, Robert Carl	Va.	Gillis, Harry Arthur, Jr.	N.Y.
B.S. in Ed. 1938, Eastern Illinois State Teachers College		A.B. 1942, Ohio Wesleyan University	
Gibson, Warren Louis	Va.	Gillman, Robert David	
Gideon, Robert Royce	Va.	A.B. 1910, Yale University	Va.
B.S. 1910, United States Military Academy		A.M. 1946, Columbia University	Mas.
Gieseking, Charles Frederick	Va.	Gills, Louis Catlin	Mas.
Gifford, Evelyn Margaret	Neb.	Gilman, Bernard Milton	D.C.
Gifford, Yale Wesley	Kans.	Gilman, Donald Lawrence	
A.B. 1947, The George Washington University		Gilman, Laura May	N.Y.
Gift, Lenore Genevieve	D.C.	A.B. 1941, University of California	D.C.
Giglio, William Peter	Md.	Gilmartin, Francis Edward, Jr.	D.C.
Gilbert, Emma	D.C.	Gilmartin, Thomas Joseph	D.C.
A.B. 1926, A.M. 1928, Radcliffe College		Gilmore, Athol Benjamin, Jr.	Md.
Gilbert, Foster Ingram	Va.	Gilmort, Barbara Anne	Ill.
Gilbert, Frederick Stewart, Jr.	Fla.	A.B. 1944, Hood College	
B.S. 1935, LL.B. 1938, University of Florida		Gilmore, Frank Peter	
LL.M. 1948, The George Washington University		B.S. 1927, M.D. 1930, Loyola University	Conn.
Gilbert, George Milton	Fla.	Gilmour, Robert Andrew	N.Y.
Gilbert, Gerald Melvin	Pa.	Gilroy, Francis Xavier	N.Y.
Gilbert, Harry Turner, Jr.	D.C.	Gilroy, John William	Ala.
A.B. 1935, Princeton University		Gilroy, Lillian Rebecca	Ill.
Gilbert, Helen Virginia	D.C.	Gilstrap, William James	
A.B. 1920, Judson College		A.B. 1910, University of Kansas	D.C.
Gilbert, Humphrey	Tenn.	Gimble, Abraham Isaac	
Gilbert, Milton Edwin	D.C.	B.S. 1941, M.S. 1948, The George Washington University	D.C.
B.M.E. 1948, College of the City of New York		Gimble, Gilbert	Md.
Gilbert, Paul Edward, Jr.	D.C.	Gingell, Robert Arthur	
Gilbert, Stanley Ormand	D.C.	A.B. 1948, The George Washington University	N.Y.
Gilchrist, Wayne Richard	Mo.	Ginsberg, Albert	D.C.
Giles, Mary Elizabeth	Va.	Ginsberg, David Kellner	N.Y.
Gilfix, Roy Hart	D.C.	Ginsberg, Julius	D.C.
B.S. 1944, University of Maryland		Ginsberg, William Kellner	D.C.
Gifford, Leon	N.Y.	Ginsburg, Harry	D.C.
A.B. 1939, Brooklyn College		Ginsburg, Manny	Md.
Ghiotti, Peter Alfonso	D.C.	Girardon, Paulette Marie	D.C.
Gilkeson, Wrenn Biller	Va.	Girismen, Mehmet Adnan	D.C.
Gilkey, Earle Will	Va.	Girismen, Mehmet Fahit	D.C.
A.B. 1938, A.M. 1940, The George Washington University		Girton, Dale Rhoads	Mass.
		Giser, Harold Walter	N.J.
		Gittelman, Elinor Ann	D.C.
		Gitter, Lenn Lieba	Md.
		Gittings, Thomas Morton, Jr.	Md.
		Gittleman, Herman Max	Md.
		Giusta, Mary Eleanor	Mass.
		Giusti, Natalie	D.C.
		Given, Roland	

Givens, John Slye A.B. 1934, Southwestern Louisiana Institute	Va.	Godfrey, John Hardie Godfrey, Michael F. B.S., M.S., 1934, Catholic University of America	D.C. N.Y.
Givot, Martin Lionel	D.C.	Goding, Maurice Wilfred	Alaska
Gladstone, Adelle	D.C.	A.B. 1933, Yankton College	
Glaser, Harry William	Md.	Godsey, Eleanor	Colo.
Glaser, Stanley	Md.	Godsey, Katherine McBrien	D.C.
Glasgow, Norman Milton LL.B. 1943, University of Maryland	Md.	Godwin, Jewel Elizabeth	Fla.
Glasgow, Richard Ellsworth A.B. 1948, Bradley University	Ill.	Godwin, Stuart, Jr.	D.C.
Glaspey, Glen S.	Wash.	Goetting, John Rudolph	D.C.
Glass, Oscar Robert, Jr.	D.C.	Goemaat, Edward John	N.J.
Glassberg, Lee	D.C.	Goewey, Bruce Anderson A.B. 1942, Colgate University	Mass.
Glassman, Gerald John	N.J.	Goffe, Janas Elizabeth	D.C.
Glazener, Jeanne Funderburg	Ky.	Golenth, George Tuttle	Va.
Glazer, Harry Bernard	D.C.	Gogate, Kay	D.C.
Gleason, Donald Hastings	D.C.	Goglin, Henry Waldo	N.J.
Gleason, Frederick James, Jr.	D.C.	Goheen, Howard Warren A.B. 1947, Mullenberg College	Va.
Gleason, Georgette Elizabeth	N.Y.	Gold, Abraham Melvin	Mass.
Gleason, Marguerite Ann	D.C.	Gold, Harvey David	Md.
Gleason, Geraldine Ann A.B. 1947, St. Mary College	Md.	Goldbaum, Annette Davis	Md.
Glenn, Arthur James	Calif.	Goldbaum, Leo Robert B.S. 1934, Buffalo College M.S. 1938, New York University	Md.
Glenn, Gertrude Marion B.S. in Ed. 1942, New Jersey State Teachers College, Trenton, N. J.	N.J.	Goldberg, Beverly Ann	D.C.
Glenn, Jean Claire	D.C.	Goldberg, Carl	D.C.
Glenn, John Ralston	Pa.	Goldberg, Charles Herbert	D.C.
Glenn, Leo Clarence	Ill.	Goldberg, David	N.Y.
Glenn, Ralph Ray A.B. 1946, University of North Carolina	N.C.	Goldberg, Fred	N.I.
Glenn, Rosemary	N.J.	Goldberg, George Milton	D.C.
Gleason, John William	D.C.	Goldberg, Irving A.B. 1948, The George Washington University	N.J.
Gietler, Bernard Urbam	Mich.	Goldberg, Jack	D.C.
Glew, William Bainbridge	D.C.	Goldberg, Martin Herbert	D.C.
Glickman, Lois	N.J.	Goldberg, Marvin Irwin LL.B. 1940, Columbus University	D.C.
Glickman, Walter	D.C.	Goldberg, Monroe Bernard B.S. 1948, Wilson Teachers College A.M. 1949, The George Washington University	D.C.
Glidden, William Townsend A.B. 1944, Yale University	Mass.	Goldberg, Murrey David	Md.
Glisson, Janet Maria	D.C.	Goldberg, Seymour	D.C.
Glockler, Walter Hallberg, Sr.	D.C.	Goldberg, Solomon Charles A.B. 1948, University of Virginia	D.C.
Gloden, Felix Anthony B.S. 1940, University of Maine	Maine	Goldberg, Stanley A.B. 1947, A.M. 1948, The George Washington University	D.C.
Glorias, George Thomas, Jr.	D.C.	Goldblatt, Hyman	D.C.
Glorioso, Anthony Robert	D.C.	Golden, Leopold	D.C.
Glover, Barbara Douglas	S.C.	Goldenberg, Jacqueline Rose	D.C.
Glover, Charles Burton	D.C.	Goldenberg, Solomon Alcono	D.C.
Glover, Clarence Kinsey	Va.	Goldfarb, Louise Marilyn	D.C.
Glover, Donald Jackson	D.C.	Goldkind, Victor Herbert	D.C.
Glover, John William	Mass.	Goldman, Albert Lawrence	D.C.
Glover, Katharine Williams	S.C.	Goldman, Alfred Merton	D.C.
Glover, Winifred	Va.	Goldman, Elliot Graham	N.Y.
Glovinsky, Sam	D.C.	Goldman, Gerald Jack	Va.
Glowacki, John Henry	Pa.	Goldman, Harry	D.C.
Gloyd, Mary Caroline	D.C.	Goldman, Morton B.S. 1942, Rhode Island State College	R.I.
Gloyd, William Cromwell	Md.	Goldman, Richard Graybell B.S. 1948, Massachusetts Institute of Technology	D.C.
Glynn, Ernest Belfer	Mass.	Goldman, Samuel Zachary	D.C.
Gnatt, Philip M.	D.C.	Goldman, William Allen	Va.
Gnatt, Solomon B.S. 1947, Wilson Teachers College	D.C.	Goldsand, Ronald Howard	N.Y.
Gochberg, Lawrence	Conn.	Goldsborough, George Joseph, Jr. B.S. 1947, United States Marine Academy	Md.
Gochour, Ray Francis	Pa.		
Gocke, Thomas Lewis	D.C.		
Goda, George	D.C.		
Godbey, Gloria Swanson	D.C.		
Godbey, Walter Braxton, Jr.	D.C.		
Godbold, Bryghte David A.M. 1947, Stanford University	Va.		
Goddard, Chester Lee	Ohio		
Goddard, James Lee	Md.		
Goddard, William Francis	D.C.		

Goldsmith, Herbert	N.Y.	Goodwin, Thomas Addison	W.Va.
B.Ch.E. 1940, College of the City of New York		A.B. 1942, Washington and Jefferson College	
Goldsmith, Jerry Lawrence	N.Y.	Goodwyn, Jean Bundy	Va.
Goldstein, Allen Abbey	D.C.	A.B. 1946, College of William and Mary	
A.B. 1947, St. John's College		Goranson, Rolf Fabian	Wash.
Goldstein, Benjamin	D.C.	B.S. in A.E. 1940, University of Washington	
B.S. 1931, M.B.A. 1932, College of the City of New York		Go-ray, Stanley Joseph	N.Y.
Goldstein, Daniel	Md.	Gordon, Alexander Rola	D.C.
B.S. 1948, University of Baltimore		Gordon, Andrew Fraser	N.Y.
Goldstein, Dorothy Muriel	D.C.	Gordon, Bonnie Jean	D.C.
A.B. 1947, Ohio State University		Gordon, Ethel Hodges	Ky.
Goldstein, Eather	D.C.	A.B. 1928, The George Washington University	
Goldstein, Howard Samuel	N.Y.	Gordon, Eva Elaine	Va.
B.S. 1948, Roanoke College		Gordon, Francis Guthrie	Va.
Goldstein, Jack	N.J.	Gordon, Fulton Ray, Jr.	D.C.
Goldstein, June Ruth	D.C.	Gordon, Harold	Ind.
Goldstein, Morton	N.Y.	Gordon, Herbert Stephan	
A.B. 1948, The George Washington University		A.B. 1947, Indiana University	Va.
Goldstein, Raymond Norman	D.C.	Gordon, Howard Leo	
Goldstein, Rita	N.Y.	B.S. 1948, Georgetown University	D.C.
B.S. 1948, Brooklyn College		Gordon, Irma Louise	
Goldstein, Robert Bruce	D.C.	B.S. 1947, Wilson Teachers College	Va.
Goldstein, Walter Carl	N.Y.	Gordon, James Kirke	Mass.
Golibart, Robert Washington	D.C.	Gordon, Lester Howard	D.C.
Golightly, Robert E.	D.C.	Gordon, Paul	D.C.
Golin, Gerald	D.C.	Gordon, Raymond Joseph	
Golis, Joseph Francis	D.C.	B.S. 1948, Georgetown University	Va.
Golodner, Sylvia		Gordon, Richard Arthur	Va.
Golota, Jane Cecelia	Pa.	Gordon, Robert Emmet	
Gomez-Disdier, Rafael M.	Puerto Rico	A.B. 1942, Williams College	
Gonda, Helen Suzanne	Pa.	M.D. 1946, Long Island College of Medicine	D.C.
Gondal, John Robert	Pa.	Gordon, Robert N.	
Gonzales, Julio Enrique	D.C.	A.B. 1948, University of Buffalo	Tenn.
LL.D. 1948, Col. Mayor N.S.R.		Gordon, Ruby Nell	Va.
Gonzalez, Abraham	D.C.	Gordon, Stewart Lynell	Va.
Good, Charles Lloyd	Md.	Gordon, Thomas Cooper	Mass.
B.S. in Ch.E. 1942, Purdue University		Gordon, Wanda Przybylski	Va.
Good, Gloria Juanita	Va.	Gordon, Woodrow Wilson	
Good, Grace	N.Y.	A.B. 1935, Randolph-Macon College	D.C.
Good, Norman Leese	D.C.	Gordon, Zara	
Good, William Horsley	D.C.	A.B. 1947, University of Maryland	W.Va.
Goode, Charles Andrew	Va.	Gore, John William	
Goodfriend, Arnold Irwin	N.Y.	A.B. 1947, Shepherd College	D.C.
Gooding, Arthur Raymond, Jr.	Va.	Gore, Mary Augusta	Va.
Goodman, Clifford James	Ariz.	Gore, Thomas Jackson, Jr.	D.C.
B.S. 1947, The George Washington University		Gore, William Fred	Md.
Goodman, Glenn Winfield	Va.	Goren, Howard J.	D.C.
Goodman, Sanford Gerald	D.C.	Gorizyia, Janina Maria	N.Y.
Goodman, Thomas A.	N.Y.	Gorman, Alan Bernard	N.Y.
B.S. 1937, State Teachers College, Buffalo, N. Y.		Gorman, Charles Thomas	
A.M. 1930, State Teachers College, New York, N. Y.		Gorman, Marilyn Jane	
Goodnight, Lyman Evans, Jr.	Md.	A.B. 1947, Barnard College	D.C.
Goodpasture, Maurice Carroll	Ten.	A.M. 1948, Yale University	N.J.
A.B. 1941, Texas Technological College		Gorman, Robert Elmer	D.C.
Goodrich, Bernard Arthur	D.C.	Gorin, Gerald Malvin	
Goodrich, Edward Caros	Va.	Gorschman, Marilyn	Md.
Goodrich, Daniel	D.C.	Gosho, Henry Hiroharu	Maine
Goodsaid, George Herman	Puerto Rico	Gosnell, Arthur Lewis	Nebr.
Goodsaid, Solon Augustus	Va.	Gottlieb, Howard Bernard	
Goodson, Solon Augustus	D.C.	Gotschall, Gale Parkison	
Goodwin, Jack Warren		LL.B. 1941, Washington College of Law	D.C.
B.S., E.E. 1947, Tri-State College		Gott, Eugene Cissel	Va.
Goodwin, Joseph Daniel	D.C.	Gottesman, Alexander Morry	D.C.
Goodwin, Paul Russell	Va.	Gothardt, Mary Ann	N.Y.
B.S. 1931, University of Maine		Gottlieb, Marvin Irving	
Goodwin, Robert Joseph	D.C.	A.B. 1947, New York University	D.C.
		Gottscho, Marie Helens	

Gottsegen, Annette Sherman B.B.A. 1936, College of the City of New York	D.C.	Grasso, Michael B.S. 1946, Bucknell University	N.J.
Gottshall, William Holt A.B. 1948, Allegheny College	D.C.	Grassy, Richard George B.S. 1933, University of Cincinnati	Va.
Gouge, John Oscar	Va.	Grauer, Oscar Haskell	D.C.
Gouge, Susan Cornelia B.S. 1948, The George Washington University	D.C.	Grauman, Franny Ruth	N.Y.
Gould, Eugene	D.C.	Gravatte, Robert Howerton, Jr. B.A. 1943, LL.B. 1947, University of Virginia	D.C.
Gould, George Marvin	Md.	Graves, John R.	D.C.
Gould, Stanley Kay	D.C.	Graves, Joseph Basil	D.C.
Gould, Warren	D.C.	Gravette, Marian Maxine A.B. 1940, State University of Iowa	D.C.
Goulden, Herbert Edward	Pa.	Gravitt, Dwight Lee A.B. 1948, The George Washington University	N.C.
Goulden, Paul Vincent B.S. 1936, Mount St. Mary College	Md.	Gravitz, Melvin A.	D.C.
Goumas, Nicholas Peter	D.C.	Gray, Beatrice Mason A.B. 1932, University of Michigan	D.C.
Gourley, Roy George B.S. 1948, University of Alabama	Pa.	Gray, Bill Lawrence	Ky.
Gowan, Colin M.	Pa.	Gray, Daniel William	D.C.
Goyne, Robert Evan	Pa.	Gray, Dorothy Irene	Pa.
Grabowski, Edwin F. A.B. 1947, The George Washington University	Ill.	Gray, Frederick Charles, Jr.	Va.
Grado, Anthony John	N.Y.	Gray, George Howard	Wash.
Grady, John David, Jr.	D.C.	Gray, James Cecil	D.C.
Grady, Joseph William	R.I.	Gray, John Allan	N.J.
Grady, Marcia Anne	D.C.	Gray, John Thomas	Va.
Grady, Robert Morris	Tex.	Gray, Kenneth Marvin	Md.
Grady, Thomas Burton	D.C.	Gray, Lawrence James	Va.
Graefe, Dorothy A.	D.C.	Gray, Lawrence Ulysses A.B. 1948, The George Washington University	Va.
Graf, Alfred Geza	N.Y.	Gray, Louis Patrick B.S. 1940, United States Naval Academy	Tex.
Graff, Wendell Eugene	Pa.	Gray, Phyllis Dunsmore Smith Ph.B. 1926, Pembroke College	D.C.
Gragg, George Root	D.C.	Gray, Robert John	N.J.
Graham, Beatrice Mae A.B. 1938, University of Nebraska	Nebr.	Gray, Sara Alexander B.S. 1948, Western Reserve University	Va.
Graham, Edward Regia B.S. in Ed. 1941, California State Teachers College	Pa.	Graybeal, John Olin B.S. 1943, College of Puget Sound	Wash.
Graham, George Greenfield, Jr.	Pa.	Grayson, Howard Avory	D.C.
Graham, Herbert McCarty	N.Y.	Grayson, Sibyl Doris	Va.
Graham, Jack Eugene B.S. 1948, Simpson College	Iowa	Grazel, Helen	D.C.
Graham, Robert Albary	Tex.	Greaver, Vernon Elmer	D.C.
Graham, William Griffith B.S. 1946, United States Naval Academy	D.C.	Greaves, Keith Carpenter B.S. 1941, University of Idaho	Idaho
Graim, Richard Joseph	Va.	Greco, Jacqueline Pauline B.S. 1945, St. Joseph's College	Pa.
Grainger, Inalee Ebissa B.S. in Ed. 1936, A.M. 1940, University of Virginia	Va.	Greear, Mary Alewe	D.C.
Grainger, Sarah Ann	N.Y.	Greeley, Helen Louise A.B. 1948, Hillyer College	R.I.
Gralnick, Paul Philip A.B. 1910, Brooklyn College	N.Y.	Green, Aneek Harold	D.C.
Gramann, Robert George	Ill.	Green, Ann Jeannette B.S. 1946, Wilson Teachers College	D.C.
Grammer, David Allen, Jr.	N.M.	Green, Arleigh William	Md.
Granath, Gull Marie	D.C.	Green, Bonnie Carol	Va.
Grandjean, Marie-Therese Jeanne	D.C.	Green, Charles Yancey, Jr.	Tenn.
Granger, Clifford Robert	N.J.	Green, Edward Harrison	D.C.
Granger, Patricia Laura	N.J.	Green, Enid Caldwell	S.C.
Grano, Mario	Va.	Green, Fern B.S. 1940, Texas Technological College	N.M.
Grant, Blaine Dodds	Va.	Green, Gerald	Pa.
Grant, Charmain Ernestine	Va.	Green, Gloria Melva	Pa.
Grant, James Augustus	Ala.	Green, Harold Arnold	N.Y.
Grant, Leonard J.	N.Y.	Green, Harold Hoadly, Jr. B.S. in E.E. 1947, Purdue University	Ohio
Grant, Orland Wolcott	N.J.	Green, Jack Allen	D.C.
Grant, Sybil A.	Pa.	Green, James W.	D.C.
Grantham, Rodney Elliott B.S. in E.E. 1942, Purdue University	Md.	Green, Jason	D.C.
Granville, John Matthew	D.C.	Green, Jess Downing, Jr. A.B. 1944, University of Kansas City	Va.
Grass, Louis William B.S. 1944, Missouri School of Mines	Mo.		
Gratzer, Emil Ernst, Jr.	Pa.		

Green, John Clarence, Jr.	Va.	Greenspan, Norman Aaron	N.J.
Green, John Henry	D.C.	Greenspan, Joanne Thompson	Va.
Green, Lillian Jean	D.C.	Greenstein, Paul J.	D.C.
Green, Mary Frances	Ala.	Greenstein, Sidney	N.Y.
Green, Norman	N.Y.	Greenville, Henry James	Md.
LL.B. 1941, Columbia University		B.S. 1948, University of Maryland	Tex.
Green, Otis LeRoy	Ky.	Greenwald, Charlie Smason	Mass.
Green, Paul Gerault	D.C.	Greenwald, Robert	N.Y.
B.S. 1936, M.S. 1935, Kansas State Teachers College		Greenwald, Robert Frederick	Tex.
Green, Richard Etter	D.C.	Greenwald, Robert Frederick	D.C.
A.B. 1947, The George Washington University		Greenwood, Gayle Marianne	Md.
Green, Robert A	Md.	Greenwood, Russell George	D.C.
A.B. 1943, Clark University		Greenzaid, Judah	D.C.
B.S. in E.E. 1948, University of Michigan		Greer, Robert Emerson, Jr.	Tex.
Green, Robert Henry	D.C.	Greer, Thomas Jefferson, Jr.	Pa.
Green, Robert Mason	Va.	Gress, James Calvin	Ind.
Green, Robert William	Va.	Gregory, Elizabeth Ann	D.C.
Green, Samuel	D.C.	Gregory, Estella Hazael	
Green, Stanley Keith	Va.	A.B. 1920, College of Wooster	Colo.
Green, Willard Arthur	D.C.	Gregory, William Lyte	
Green, William Oliver, Jr.	D.C.	A.B. 1930, A.M. 1940, University of Denver	Va.
Greenbaum, Hilda Joan	D.C.	Grenadier, Albert Harold	D.C.
Greenberg, Alfred Henry	D.C.	Grenan, Marie Margaret	Va.
Greenberg, Bernard	Mass.	Grenata, Michaela	
A.B. 1948, University of Massachusetts		A.B. 1948, College of William and Mary	Md.
Greenberg, Bernard Louis	D.C.	Gresser, Seymour Gerald	Iowa
A.B. 1941, Oberlin College		Greteman, Genevieve Mary	D.C.
Greenberg, Bertram	D.C.	Greville, Thomas Nall Eden	
Greenberg, David Leonard	Mass.	A.B. 1930, University of the South	
Greenberg, Joyce Ann	D.C.	A.M. 1932, Ph.D. 1933, University of Michigan	Inda
Greenberg, Mack Kenneth	Mass.	Grewal, Rajwant Kaur	
LL.B. 1927, Boston University		A.B. 1941, Nagpur University, India	Md.
Greenberg, Marvin Paul	D.C.	Grev, James Preston	D.C.
Greenberg, Phyllis Sandra	D.C.	Grev, Leo	Conn.
Greenberg, Sidney	Mass.	Grickia, Ann Margaret	D.C.
B.S. 1940, University of Massachusetts		Grier, Harold Thomas	Md.
Greene, Barbara Louise	Md.	Griesemer, Edward Thomas	Md.
Greene, Barbara Markham	D.C.	Griffin, Charles Donald	
Greene, Carrie Lee	D.C.	B.S. 1927, United States Naval Academy	
Greene, Claire Lena	Va.	M.S. 1937, University of Michigan	Va.
B.S. 1945, Teachers College of Connecticut		Griffin, Charles William, Jr.	Va.
Greene, David F.	N.Y.	Griffin, James Edward	Neb.
Greene, Edward Allen	Md.	Griffin, Leonard Lee	N.C.
Greene, Edward Hickman	La.	Griffin, Leslie	Mo.
Greene, Gale Kensington	Conn.	Griffin, Lindon Larkin	N.C.
Greene, Harold H.	D.C.	Griffin, Nelda	
Greene, Jesse Lester	D.C.	B.S. 1946, University of North Carolina	D.C.
Greene, John Ellsworth	D.C.	Griffin, Patricia Ruth	
Greene, Katherine Virginia	Va.	B.S. in Ed. 1948, University of Dayton	N.Y.
A.B. 1947, Eastern Nazarene College		Griffing, Willard Earl	D.C.
Greene, Nita Eugenia	S.C.	Griffith, Benjamin Roberts	Md.
B.S. 1941, Catholic University of America		Griffith, Cleo Sharpe	
Greene, Robert Ellis	Ind.	B.S. 1918, Columbia University	Tenn.
Greene, Sidney	N.Y.	Griffith, Eugene Everett	
B.S. 1940, College of the City of New York		A.B. 1928, The George Washington University	
Greene, Walter Scott	Va.	A.M. 1938, Columbia University	N.I.
B.S. 1930, Syracuse University		Griffith, Howard Richard	W.Va.
Greenfield, Julius William	N.Y.	Griffith, Richard Darrel	Tenn.
Greenfield, Virginia Louise	D.C.	Griffith, Rubye Elizabeth	Canada
Greenhouse, Samuel W.	N.Y.	Griffith, Shirley Ann	Va.
B.S. 1918, College of the City of New York		Griffiths, Mary Cecelia	D.C.
Greenlee, David Lasley	Ill.	Griffiths, Muriel Elaine	D.C.
Greenlee, Robert Leonard	Ind.	Griggs, Lorraine	
Greenspan, Louis	D.C.	A.B. 1948, The George Washington University	Ohio
A.B. 1941, New York State College for Teachers		Grimani, Fred Joseph	

Grimes, James Foster	Va.	Guerrant, William Samuel, Jr.	Va.
Grimes, John Francis	D.C.	Guerrero, Margarita	D.C.
Grimes, Willard Mudgett, Jr.	N.Y.	Gues, Edward Preston	Va.
B.S. 1940, Wagner Memorial Lutheran College		Guggisberg, Marie	Minn.
Grimes, Winifred Wright	Va.	A.B. 1948, University of Minnesota	
Grimm, Robert John	N.Y.	Guice, Lohren Clifford	N.C.
Grimmett, Talmage Pomeroy	Idaho	Guida, Philip Fred	Conn.
Grimwood, Gordon B.	Kans.	Guidette, Bernice Claudia	D.C.
A.B. 1948, The George Washington University		Doctor of Chemistry 1934, University of Rome, Italy	
Grimwood, Rebecca Foxworth	Miss.	Guild, Henley Lyman	Va.
Grinnell, John Robert	Mass.	A.B. 1947, Johns Hopkins University	
Grisel, Charles Robert	N.J.	Guilford, Martha Chapman	D.C.
Griham, Ethel Marguerite	Colo.	A.B. 1948, Alabama State College for Women	
Gritz, Alexander	D.C.	Guillaudeu, Virginia Ide	D.C.
Grivas, Spiro James	D.C.	A.B. 1945, University of Colorado	
Grobman, William	N.J.	Guimond, Joseph Alexandre	Ohio
B.S. in E.E. 1944, Rutgers University		A.B. 1931, LL.B. 1933, Western Reserve University	
Grodin, Herbert	N.Y.	Guinan, Warren Alonzo	Nebr.
Groening, Ralph Edward	D.C.	A.B. 1943, University of Nebraska	
Groettum, Theodore Roger	D.C.	Guinn, Robert Edward	D.C.
Grogan, Charles Henry	Va.	Gula, Michael, Jr.	N.J.
B.S. 1941, The George Washington University		Gulbrandson, Don	D.C.
Grogan, John Barry	Va.	B.S. in C.E. 1941, The George Washington University	
A.B. 1948, The George Washington University		Gulbrandson, Helen Reid	D.C.
Grondzki, Frances Marie	Wis.	A.B. 1938, The George Washington University	
Groom, Phyllis P.	D.C.	Gulewicz, Edward John	N.Y.
B.S. 1946, Miami University		Gulick, Richard Green	Va.
Grose, William Burton	W.Va.	Gulko, Arnold George	N.Y.
Groseclose, Nancy Margaret	D.C.	B.Ch.E. 1947, New York University	
Gross, Bertrum Myron	Va.	Gulliver, Ann Derby	Md.
A.B. 1933, A.M. 1935, University of Pennsylvania		Gump, Lyndon Jay	Md.
Gross, Donald Lee	Pa.	Gunn, Frederick Allen	Va.
Gross, Jean Elizabeth	D.C.	Gunnell, Jane Anne	Fla.
Gross, Martin	D.C.	Gunner, Charles Anthony	N.J.
Gross, William, Jr.	Wis.	Gunod, Seymour David	N.Y.
Grosse-Lohmann, Ralph	Md.	Gunther, John Joseph	Kans.
Grove, Jesse Barrett, Jr.	Va.	A.B. 1947, Kansas City University	
B.S. 1939, Virginia Polytechnic Institute		Gunther, Patricia Ann	D.C.
Grove, William Blatchford, Jr.	Pa.	Gunther, Robert Muir	D.C.
Grover, Stephen Lee	D.C.	Gustafson, Harris Finley	Minn.
A.B. 1948, Yale University		Gustafson, Joan Clara	N.J.
Groves, Gerald Richard	D.C.	Gustafson, Melbourne G.	Va.
Groves, Nancy Alice	D.C.	A.B. 1938, Augustana College	
Groves, Stanley Corley	D.C.	Gutberlet, Joseph Robert	Md.
Grubb, Barbara Ann	Md.	Gutches, George Andrew	D.C.
Grubbo, Violet Davis	Okla.	Gutekunst, E. Grace	Pa.
Grubbs, Beryl Schaum	Pa.	B.S. 1945, Duquesne University	
Grubic, Eli	Va.	A.M. 1945, Columbia University	
A.B., LL.B. 1939, LL.M. 1948, The George Washington University		Guth, Herbert Julius	N.Y.
Grundyke, Richard Nelson	Fla.	A.B. 1937, University of Wisconsin	
Grumbly, Richard Francis	D.C.	Gutheim, Marjorie Frye	Mass.
Grumling, Albert John	Pa.	A.B. 1937, A.M. 1938, Radcliffe College	
Grunberg, Maurice	D.C.	Guthory, Upton Keller	D.C.
Gruener, Elaine	Fla.	Guthrie, Eugene Harding	Md.
Grunfelder, Conrad	Md.	Guthrie, William Joseph, Jr.	Mass.
Grunsten, Russell Carl	Fla.	Gutierrez, del Rio Blanca	Puerto Rico
Gruskv, Reuben	N.Y.	A.B. in Ed. 1931, University of Puerto Rico	
Ph.B. 1918, Yale University		Gutridge, John Everette, Jr.	Va.
Gude, Gilbert	Md.	Guy, John Phillip	D.C.
B.S. 1948, Cornell University		Guy, Robert Irwin	D.C.
Gudgen, Royal Wheeler, Jr.	Fla.	Guymon, Roy	Ill.
Guenther, Louis Charles	Va.	Guynn, Norman Roy	D.C.
A.B. 1934, Southwestern University		Gwiazdzinska, Marcella C.	Calif.
A.M. 1938, University of Pittsburgh		Gwynn, Edward Riley	D.C.
Guerin, Bernard	D.C.	Gwynn, Thomas Summers, Jr.	Md.
Guerra, Alfonso Angel	Tex.		

II			
Haack, Clifford William	Va.	Haile, Amelia Kolk	Va.
Haack, Louise Bender	Va.	B.S. 1939, Johns Hopkins University	Va.
A.B. 1946, The George Washington University		Hailey, Lyman Griffith	D.C.
Haahr, James Christian	Minn.	Hailer, Wilson Duroud	Fla.
Haapanen, Ethel Phyllis	Mass.	Haisten, Stella Eugenia	N.C.
Haas, Edward William	D.C.	Haithcock, Maynard Kitchin	D.C.
A.B. 1936, College of St. Thomas		Halaby, Doris Carlquist	N.J.
Haas, Everett Leo	D.C.	Halak, Eleanor B.	Va.
Haas, Thekla Richard	D.C.	Haldenian, John Wallace	Va.
Haas, Wilbert George	Nebr.	Hale, Julia Bowea	Va.
Haas, William Irvin	Pa.	Haley, Louis Albin	Va.
Haberman, David Isadore	Md.	Haley, Peter John	Va.
Hackl, Muriel Forster	Md.	Haley, Violet Lowry	Va.
Hackler, Windsor Gregory	D.C.	Halish, Walter George	Conn.
A.B. 1937, A.M. 1938, Northwestern University		Hall, Allan	N.J.
Hackney, Charles William, Jr.	D.C.	Hall, Audrey Doney	D.C.
Hackney, Mabel Patra	D.C.	Hall, Betsy Martin	D.C.
A.B. 1932, Morehead State Teachers College		Hall, Daniel Curtis	Ark.
Hackworth, Gloria	D.C.	Hall, E. Juanita	D.C.
Hackaylo, Edward	W.Va.	Hall, Ernest Howard	N.J.
Haddad, Adele Sylvia	D.C.	Hall, Helen Patricia	N.J.
Haddox, Blaine Morray	Va.	Hall, Heyward Eugene	Va.
Haddox, Dallas Deryl	Va.	Hall, James Aldrich	Va.
Hadley, Harry Irving	Wis.	Hall, James Granville, Jr.	D.C.
Hadley, Herschel Nixon	Wash.	Hall, James Herrick	D.C.
A.B. 1930, Whitman College		A.B. 1947, Baylor University	
Hadlock, Robert Lewis	Kans.	A.M. 1948, The George Washington University	
Haele, Carlton Walther	Va.	Hall, Janie Roselle	Fla.
B.S. 1943, Case Institute of Technology		Hall, Jonathan	D.C.
Haefl, Richard Alan	D.C.	A.B. 1935, Rollins College	
Haft, Melvin	N.Y.	A.M. 1938, Gallaudet College	D.C.
Hagan, Joseph Francis	N.Y.	Hall, Joseph Alexander	W.Va.
Hagan, William Joseph	Mich.	Hall, Joseph Earl	D.C.
Ph.B. 1943, University of Detroit		Hall, Julianne	D.C.
Hagedorn, Charles	D.C.	Hall, Katherine	D.C.
Hagedorn, Robert Lee	Md.	Hall, Lilburn Eugene	D.C.
Hageman, Charlotte Soydam	Iowa	Hall, Lou Ann	D.C.
A.B. 1936, Vassar College		Hall, Mabel Elizabeth	D.C.
A.M. 1938, Radcliffe College		Hall, Mary Viola	D.C.
Hagen, William August	Ohio	Hall, Nathan Gray	D.C.
A.B. 1948, Hiram College		Hall, Nels G.	W.Va.
Hager, Eileen Mae	D.C.	Hall, Patricia Louise	Va.
Hager, Florence Betty	D.C.	Hall, Waverly Dean	Fla.
Hagestary, Stephen William	D.C.	Hall, William Penrod	
Haggart, Jane	D.C.	Hallberg, Ernest Van, Jr.	
Hagganmaker, Thomas George	Va.	A.B. 1943, University of Florida	D.C.
Haggett, Harry Arthur	D.C.	Haller, Herbert Noel	Pa.
Hagle, Alfred Darius	Okla.	Hallman, Clarence Kenneth	Md.
A.B. in Ed. 1947, Central State College		Hallman, Lois Field	
Hague, Wilma R.	Fla.	A.B. 1937, Stanford University	Va.
A.B. 1937, Florida State College for Women		Hallman, Norma Mae	Va.
Hagy, Harold Henry	Kans.	Hallman, Pauline Pearl	D.C.
A.B. 1938, Kansas Wesleyan University		Hallock, James Edward	D.C.
Hahn, Daniel Boynton, Jr.	Fla.	Halloran, Julia Ann	Colo.
Hahn, David Emanuel	W.Va.	Hallquist, Norman Jerome	N.I.
Hahn, Edward Rock	Va.	Halperin, Murray	N.Y.
Hahn, Thomas Frederick	Kans.	Halpern, Esther	N.Y.
A.B. 1948, University of Texas		Halpern, Gloria	
Hahner, Patricia Jeanne	D.C.	A.B. 1947, The George Washington University	
Haidt, Harold	N.Y.	Halpern, Louis Harrington	Md.
B.S. in Ch.E. 1947, Purdue University		Halter, Mary Withers	D.C.
Haight, Donald James	Va.	B.S. 1938, University of North Carolina	N.Y.
		Halvatzis, George	S.D.
		Halverson, Leroy Thomas	Nev.
		Ham, Richard D.	Tenn.
		Hamblen, Dana Harman	D.C.
		Hamblet, Julia Estelle	
		A.B. 1937, Vassar College	D.C.
		Hamburger, Irma Belle	

Students Registered

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Hamby, Alice Walters A.B. 1943, Transylvania University	Ky.	Hanby, Carolyn Elizabeth Hance, Edward B.S. 1946, University of South Carolina	Md. Fla.
Hamby, Glenna Gayle	Va.	Hanchak, Madeline Hutchinson	D.C.
Hamby, John Gordon B.M.E. 1947, University of Kentucky	Ky.	Hancock, Hert Lee, Jr.	Va.
Hamilton, Edwin Earl	Va.	Hancock, John Cochrane A.B. 1943, Western Maryland College	Md.
Hamilton, Eugenia Cheney	Mass.	Hancock, Joy Bright	Va.
Hamilton, Grace Anton	Va.	Hancock, Katharine I. A.B. 1942, University of California	Calif.
Hamilton, Howard Pinner	N.Y.	Hancock, Nell	Tenn.
Hamilton, Jack Robert	D.C.	Hancock, Quinlan Harris	Va.
Hamilton, John Newcomb B.S. 1935, University of Maine	Va.	Hand, Elizabeth Jean A.B. 1948, Connecticut College	N.J.
Hamilton, Kingsley W. A.B. 1933, College of Wooster	Ohio	Hand, George Eastham B.S. 1933, Randolph-Macon College	Va.
A.M. 1934, LL.D. 1947, Fletcher School of Law and Diplomacy		Hand, Mary Elizabeth A.B. 1943, Knox College	N.J.
Hamilton, Lloyd William A.B. 1948, The George Washington University	D.C.	Handelman, Marilyn Lea	Mo.
Hamilton, Mary M.	D.C.	Handeyside, Joseph Burns	Wis.
Hamilton, Pat Ray	W.Va.	Handler, Alvin Irving B.S. in Ed. 1939, Syracuse University	D.C.
Hamilton, Robert Eugene B.S. in E.E. 1948, Ohio State University	Ohio	Handler, Chester J.	D.C.
Hamilton, Roger Kirkpatrick	Tenn.	Handy, Florence B.	D.C.
Hamilton, Russell	D.C.	Handy, John Bruce, Jr. A.B. 1943, Washington and Lee University	D.C.
Hamilton, Samuel Graham	Mass.	Hanes, Betty R.	Ohio
Hamilton, Sydney Emanuel	D.C.	Hanes, Richard Irvin	Va.
Hamler, Dollie Rubye	Iowa	Haney, Donald	N.C.
Hamlin, Alan Holden	Fla.	Haney, Glenda Verdalee	Ark.
Hamlin, Emil	Fla.	Hanken, Raymond George B.S. 1938, The George Washington University	Va.
Hamlin, Verna Marjorie	Tex.	Hanley, Charles	N.Y.
Hamm, Charles Sherman A.B. 1946, A.M. 1947, The George Washington University	Md.	Hanley, John Charles	N.Y.
Hammann, Lois Mary	D.C.	Hanley, Walter Alfred	Va.
Hammarstrom, Everett John A.B. 1947, Clark University	Mass.	Hammer, Frank Joseph B.S. 1938, New York University A.M. 1939, Columbia University	N.Y.
Hammel, Bernet George	N.J.	Hanna, Jane Edwards	D.C.
Hammerly, Amelia H.	Va.	Hanna, William Eugene, Jr. A.B. 1947, Bradley Polytechnic Institute	Ill.
Hammett, Margaret Mary	D.C.	Hannigan, William, Jr.	Md.
Hammett, Thomas Francis	D.C.	Hannon, John Vincent	N.Y.
Hammond, Elizabeth Leah	Va.	Hannoosh, Raymond Thomas A.B. 1945, Dartmouth College	Mass.
Hammond, Florence S.	D.C.	Hanrahan, Donald Joseph	N.Y.
Hammond, Frank Bertrand	Md.	Hansel, Roger Elmer	D.C.
Hammond, Harry Krewson B.S. 1938, Lehigh University	Pa.	Hansen, Arline Anderson A.B. 1948, The George Washington University	Calif.
Hammond, Hubert Charles, Jr.	Pa.	Hansen, Carl A.B. 1948, University of Southern California	Calif.
Hammond, Julian Bryan A.B. 1948, The George Washington University	S.C.	Hansen, Henry Otto B.S. 1930, United States Naval Academy	Iowa
Hammond, Kenneth Fabian	D.C.	Hansen, Herbert Orville	D.C.
Hammond, Seymour Blair B.S. in E.E. 1945, University of Washington	Utah	Hansen, Jean Dodds	Vt.
M.S. in E.E. 1948, Cornell University		Hansen, Margaret Catolina	D.C.
Hammons, Att Wingfield, Jr.	Miss.	Hansen, Martin Edward	Calif.
Hampton, James Taylor	Mo.	Hansen, Melvin Robert	Nebr.
Hampton, Raymond Merritt	Md.	Hansen, Walter Daniel	D.C.
Hamrick, Lillian Aline A.B. 1935, University of Chattanooga	D.C.	Hanson, Henry, Jr. A.B. 1940, Wesleyan University A.M. 1941, Harvard University	Conn.
B.S. in L.S. 1943, George Peabody College for Teachers			
Hanan, James Lane	D.C.		
Hanavan, Robert James	N.Y.		
Hanbury, Lillian	D.C.		
Hanby, Barbara Louise A.B. 1948, The George Washington University	Md.		

Hanson, Jean Lavonne	Wis.	Harmon, Robert Brooks	D.C.
Hanson, Rosamond B.	S.D.	B.S. 1941, University of Maryland	D.C.
A.B. 1932, Lake Erie College		Harmstone, Richard Cranning	D.C.
Hanst, Philip Lincoln	N.J.	Harper, Edith Elizabeth	D.C.
Hantman, Alfred	N.Y.	Harper, Francis Roderick, Jr.	Pa.
A.B. 1939, Brooklyn College		Harper, Lawrence Mervin	
Hanyok, Andrew	Pa.	A.B. 1942, Pennsylvania State	
Hanyok, Joseph	Md.	College	
Hanyok, Stephen	Pa.	Harper, Richard Howard	W.Va.
Hapeman, Lucy Ann	Nebr.	Harper, Robert Charles	Md.
A.B. 1946, University of Nebraska		Harrell, Frances Leone	Va.
Happick, Richard Jay	N.Y.	A.B. in Ed. 1946, Mary Washington	
B.M.E. 1948, Syracuse University		College	
Haran, Hilda Gay	D.C.	Harrington, Charles Wilmott, Jr.	Wash.
Harbaugh, Eva Luedla	Md.	A.B. 1948, The George Washington	
A.B. 1931, A.M. 1940, The George		University	
Washington University		Harrington, David Michael	N.Y.
Harbaugh, George Harold	D.C.	Harrington, Dorothy Evelyn	Mam.
A.B. 1948, Rutgers University		Harrington, Elaine Mary	N.Y.
Harbaugh, Marian Page	Ohio	Harrington, John Robert	N.J.
A.B. in Ed. 1945, University of		Harrington, Joseph Michael	Iowa
Toledo		A.B. 1944, University of Iowa	
Harbold, William Kump	N.J.	LL.B. 1947, The George Washington	
Hardcastle, Orville Edward	Va.	University	
Hardey, James William, Jr.	Md.	Harris, Benjamin Thompson	Va.
A.B. 1941, University of Maryland		Harris, Bernice Layton	Va.
Hardin, Dale Wayne	Ill.	Harris, Bertha	D.C.
Hardin, Nan Walker	Calif.	Harris, Catherine	D.C.
Harding, Raymond Paul	D.C.	Harris, Chancellor Elwood	Va.
Harding, Warren Gamaliel	Ind.	B.S. 1934, University of Kentucky	Fla.
Hardy, James Ralph	Va.	Harris, Charles Manning, Jr.	Va.
Hardy, Lawrence Sirrine, Jr.	Va.	Harris, Doris Lee	
Hardy, William McClure	Wash.	A.B. 1937, Concord College	Va.
B.S. 1945, University of Oregon		Harris, Emmett Watkins	D.C.
Hare, James Donald	D.C.	Harris, Forest Klaire	D.C.
A.B. 1916, A.M. 1937, West		Harris, Fred Taylor	
Virginia University		A.B. 1934, Brooklyn College	Va.
Hare, Robert Hayne	S.C.	Harris, Georgia Dieterich	
A.B. 1931 Newberry College		A.B. 1932, Culver-Stockton College	D.C.
LL.B. 1935, University of South		Harris, Herschel	D.C.
Carolina		Harris, John Alfred	
Hargesheimer, Halbert Vincent	D.C.	B.S. 1946, University of Illinois	D.C.
Hargy, Francis Robert	Md.	Harris, John Samuel, Jr.	
A.B. 1948, The George Washington		B.S. in Ed. 1943, Wilson Teachers	
University		College	
Haringer, Albert Michael	Va.	Harris, Joseph Milton	D.C.
B.S. 1938, The George Washington		Harris, Joseph William	D.C.
University		Harris, Mark	N.Y.
Harker, Lloyd Harrison	Colo.	Harris, Martha Jane	D.C.
Harkless, Calvin McCamey	Va.	B.S. 1942, University of Pittsburgh	Okl.
Harkness, Roger Dale	Mo.	Harris, Melvin Ray	Va.
Harlan, John Cooper	Va.	Harris, Paul Austin	Iowa
Harlan, Margaret Minerva	Ohio	Harris, Raymond Walker	
Harlan, Mary Lucile	Va.	Harris, Richard Carl	
Harless, Bernard Griffith	Va.	B.S. 1947, Iowa State College	D.C.
A.B. 1934, Washington and Lee		Harris, Robert Early	
University		B.B.A. 1937, Texas College of Arts	
Harley, Claire	N.Y.	and Industries	D.C.
Harley, Geraldine	Mass.	Harris, Robert Hyman	D.C.
Harley, James Ronald	Pa.	Harris, Ruth Ann	Md.
Harloff, William Carroll	Md.	Harris, Samuel Henry	Va.
Harlow, Margaret Helen	Minn.	Harris, Shirley	
A.B. in Ed. 1936, State Teachers		A.B. 1944, Wellesley College	D.C.
College, Bemidji, Minnesota		Harris, Teresita Carreno	Calif.
A.M. 1941, George Peabody College		Harris, Virgil Erwin	Va.
for Teachers		Harris, Virginia Berenice	
Harlow, Richard Francis	D.C.	B.S. 1940, University of Virginia	N.C.
Harman, Arthur Crawford, Jr.	D.C.	Harris, William Oliver	D.C.
Harman, Hugh Huebner	N.Y.	Harris, William Penn	N.C.
Harman, Smith S.	Va.	Harris, Willie Lucille	N.C.
A.B. 1935, Duke University		Harris, Zebb Jennings	Md.
Harmer, Don Stutler	D.C.	Harrison, Alexander	

Harrison, Allan Marion B.S. 1937, Oregon State College	Va.	Hartmann, Gail Milton	Md.
Harrison, Archibald Chapman, Jr.	D.C.	Hartney, James Cuthbert	D.C.
Harrison, Edna Irene	Mo.	Hartsig, Robert Baker	Mich.
Harrison, Eleanor Smith	Va.	B.S.E. 1943, University of Michigan	
Harrison, Elizabeth Toupaz	Md.	Hartsook, Wallace Woodrow	Va.
Harrison, Eugene Carter	Va.	Hartzell, Jay Stanley	D.C.
Harrison, Glenn Charles	Va.	Harvey, Donald Curtis	R.I.
Harrison, Haldon Roberts	Va.	Harvey, Gertrude Elvira	D.C.
A.B. 1947, The George Washington University		A.B. 1927, Waynesburg College	
Harrison, Harry	Wis.	Harvey, Joseph Spencer	D.C.
B.S. in E.E. 1935, University of Arkansas		Harvey, Martha Ann	Va.
Harrison, John Millard	N.C.	Harvey, Nancy Lane	D.C.
Harrison, Junius Henry	Md.	Harvey, Patrick Richard	Mont.
Harrison, Louis Pincus	Mass.	Harvey, Robert Henry	D.C.
Harrison, Mignonette Eulalie	D.C.	Harvey, Robert Nelson	Va.
Harrison, Robert Francis	Md.	Harvie, Robert Wesley	D.C.
Harrison, Robert Scott	Pa.	A.B. 1944, University of California	
Harrison, Ruth	Pa.	Harwood, William Robert, Jr.	Md.
Harrison, Thelma Winifred	D.C.	Hash, Volney Wade	D.C.
Harris, Florence Hazel	D.C.	Hashim, John Sarkise	Md.
Harrold, Clay	Va.	B.S. 1947, University of New Hampshire	
Harron, Karl LeRoy	D.C.	Hashmi, Syed Mohammad Tagi	D.C.
Harron, Meyer Jacob	D.C.	A.B. 1937, A.M. 1939, Osmania University	
Harrow, Lee Salem	D.C.	Haske, John Reed	D.C.
B.S. 1946, The George Washington University		Haskell, Boris	Mass.
Harrow, Robert Lee	N.Y.	A.B. 1944, Harvard University	
Hart, Bobby Jack	D.C.	Haskell, James K.	Calif.
Hart, Donn C.	N.D.	Haskins, Elma Hayes	D.C.
B.S.C. 1935, University of North Dakota		Haskins, Margaret Varda	Wis.
Hart, Harold Mathew, Jr.	Ill.	Haslup, Allen Lee	Fla.
Hart, Margaret Dawson	Ind.	Hastings, Delores Arlene	Wis.
Hart, Maurice Wright, Jr.	D.C.	A.B. 1947, The George Washington University	
Hart, Nelson Perry	D.C.	Hastings, Dorothy Louise	Wis.
Hart, Patricia Ann	Okla.	B.S. 1943, State Teachers College, Oshkosh, Wis.	
Hart, Regina Anne	Pa.	Hastings, Dwight Fellows	D.C.
Hart, Robert Norton	D.C.	Hastings, James Riley	D.C.
B.S. 1941, Wilson Teachers College		Hastings, Jo Anne Frances	D.C.
Hart, Seward Lyman	S.D.	Hastings, Shirley Elise	Va.
A.B. 1938, Yanktown College		Hastings, William Harris	Conn.
Hart, Stephen Ambrose	Iowa	Haswell, Judyth Ruth	Va.
B.S. 1941, St. Ambrose College		Hatch, Francis Joseph	D.C.
LL.B. 1948, Georgetown University		Hathfield, Eldon Lowell	Mich.
Hart, William Dyer	D.C.	Hathfield, Ralph Henry	Va.
Hart, William Landrum	Md.	Hathaway, Betty Elaine	Ind.
Hartenberger, Dora A.	Wis.	B.S. 1944, Indiana University	
B.E.E. 1916, Whitewater State Teachers College		Hathaway, Robert Glenn	D.C.
Harter, Richard Lawrence	Va.	Hathcote, Martha Lunell	Va.
Hartfield, Jeanne	D.C.	Hattis, Russell Elmer	D.C.
Ph.B. 1943, Loyola University		B.S. in E.E. 1947, University of Illinois	
Hartford, Jocelyn Stanley	Md.	Hattis, Shirley Lois	Ill.
Hartford, Thomas James, Jr.	D.C.	Hattox, James Grady	D.C.
Hartigan, Benjamin Strong	N.Y.	Hauck, Raymond Leahigh	Ind.
Hartle, Rexford Holmes	Va.	Hauck, William McRae	Md.
Hartley, Hugh Harris	D.C.	Hauer, Pearl	D.C.
Hartley, Jean Doris	D.C.	Haugan, Gertrude Marian	D.C.
Hartley, Jeannette Rose	Ill.	Haupa, Alba	D.C.
Hartley, Rexford Francis	Va.	Haupt, Charles Caldwell	D.C.
Hartley, Thornton Lee	D.C.	Hausch, Adolph Paul	N.Y.
Hartline, Robert Hind	D.C.	Hause, Benton Arlington	D.C.
Hartman, Bruce Reiff	Va.	Hausman, Helen	D.C.
Hartman, Charles Clifford, Jr.	Calif.	Hausman, Howard Jay	N.Y.
Hartman, Harry Edson	D.C.	A.B. 1939, College of the City of New York	
Hartman, Kenneth William	D.C.	A.M. 1942, New York University	
Hartman, Lila	Ill.	Haussemer, Myron Francis	Pa.
Hartman, Nona Claire	Calif.		
Hartman, Robert Warner	W.Va.		

Haut, Milton Joseph	Md.	Head, Robert Vincent	D.C.
B.S. in Ed. 1935, M.S. in Ed. 1940,		Headington, Janet	D.C.
Rutgers University		Headley, William McKendree	Md.
Havell, Olga Marge	Va.	Heald, Ruth Virginia	D.C.
Haven, Herman	D.C.	Healey, Alan John	D.C.
Haven, Richard Anthony	Va.	A.B. 1948, The George Washington	
Havener, Esther Madeline	D.C.	University	
Havens, William Dodge	D.C.	Hearing, Vincent Joseph	D.C.
Hawkins, Dorothy Bridgman	Va.	Hearn, Alexander McMurray	Mo.
B.S. in Ed. 1945, Madison State		Heart, Margaret Josephine	D.C.
Teachers College		Heath, Douglas Laird	D.C.
Hawkins, Elizabeth Louise	W.Va.	Heath, Howard Lawton	D.C.
Hawkins, Herman Edmond	Ga.	Heath, Wesley Tyler, Jr.	N.C.
Hawkins, Herschel Bernese	D.C.	Heath, William Walter	Va.
Hawkins, Martha Eleanor	N.Y.	Heavener, Mabel Lankford	Md.
Hawkins, Richard Lyon	D.C.	Heavey, Thomas Jackson	Va.
Hawkins, Thomas Jackson	D.C.	B.S. 1917, United States Military	
Hawks, Arnold Wayne	Va.	Academy	
Hawthorne, Charles Byrd	Va.	Heavner, William Stewart	Pa.
Haxton, Richard Irving	Md.	B.S. in E.E. 1933, Drexel Institute	
A.B. 1948, The George Washington		of Technology	D.C.
University		Hebda, Edward Albert	
Hay, Maxine Lucy	Mo.	A.B. 1930, Pennsylvania State	
A.B. 1947, Grinnell College		College	Pa.
Hayden, Ann Elizabeth	D.C.	Hebda, Edward Florian	D.C.
Hayden, Franklin Ross	Md.	Heberling, Emory Donald	D.C.
Hayden, James Harvard	Md.	Hebert, Paul Edmond	Ill.
Haydon, Edith M.	Va.	Hebson, Vincent Kenneth	Md.
Hayek, Will J.	D.C.	Hecht, Irving Mark	
Hayes, Edward Matthew, Jr.	Maine	B.B.A. 1947, College of the City	
Hayes, Joe	Va.	of New York	D.C.
Hayes, John Keller	Va.	Hecht, Norman Francis	D.C.
Hayes, Marilyn Schenck	Md.	Heck, James Edward	Tenn.
Hayes, Marjorie Israelson	Va.	Heck, Lena Kate	N.D.
Hayes, Patricia Lee	Calif.	Heckman, Dorothy Anita	Iowa
Hayes, Robert William	N.Y.	Hedberg, Robert Niles	D.C.
A.B. 1930, Columbia University		Hedges, Harold Talmadge	Md.
Hayhoe, George Fred, Jr.	D.C.	Hedges, Richard Henry	Ill.
Hayman, Harry	D.C.	Hedley, Robert Kenneth	W.Va.
B.S. 1938, New York University		Hedrick, Robert Kenny	Nebr.
Haynes, Aubrey Franklin	Tex.	Hedstrom, Axel Bernard	D.C.
Haynes, Chester St. George	D.C.	Heeney, Elizabeth Anne	
Haynes, Elfrieda Grace	Iowa	A.B. 1946, State Teachers College	
Haynes, June Lillian	Va.	Montclair, New Jersey	N.J.
Haves, Norma Edith	Va.	Heffernan, B. Joseph	D.C.
Havnes, Robert Eugene	D.C.	Heffernan, John Baptist	
Hays, Jesse Roland	D.C.	B.S. 1917, United States Naval	
Hays, Ralph Edwin	Pa.	Academy	D.C.
A.B. 1947, Central College		Heflin, Deloris Mae	N.Y.
Hays, Raymond Leroy	D.C.	Hefter, Leonard Simon	Mass.
A.B. 1946, The George Washington		Hegarty, Francis Patrick	Md.
University		Hege, Jeremiah Collins	
Hays, Woodson Hays	D.C.	B.S. 1942, University of Maryland	
Hayter, Phyllis Anne	Md.	M.S. 1949, California Institute of	
A.B. 1928, Vassar College		Technology	Mich.
Hayward, William Gammon, Jr.	D.C.	Hegeman, Christine Ruby	
Hazán, Solomon J.	N.Y.	A.B. 1948, University of Michigan	D.C.
A.B. 1947, Brooklyn College		Henz, Haldis Hazel	Va.
Haze, Robert Hayne	S.C.	Hegler, Erastus Jerome	
A.B. 1931, Newberry College		A.M. 1930, Catawba College	Md.
LL.B. 1935, University of South		Heider, Elizabeth Louise	Mich.
Carolina		Heiler, Frederick Julius	Mich.
Hazell, Joseph William, Jr.	Md.	Heiler, Vivian Marie	N.J.
Hazleton, Etta Jo	Kans.	Heiliczer, Joseph	Md.
Hazur, Paul John	Va.	Heilmann, Marjory Ann	D.C.
A.B. 1948, The George Washington		Heim, Seymour	Va.
University		Heimann, Peter Klava	D.C.
Hazard, Joan Marye	Md.	Heimer, Alice B.	Pa.
Head, Almaria	D.C.	Heindish, Bernard	D.C.
Head, Nelson Mead	Va.	Heine, Edward George	D.C.
B.S. 1931, United States Naval		Heine, Henry Colegrove	Md.
Academy		Heine, John Montgomery	

Heinemann, Grace Evelyn	Va.	Hendrix, Arthur Keith	D.C.
Heinisch, Ned O.	W.Va.	Henebry, Alfred Garrett	D.C.
A.B. 1942, Marshall College		B.E.E. 1940, Castleton State Normal	
Heinz, Luther Carl	Pa.	School, Vt.	
B.S. 1933, United States Naval		Henegar, Harold H.	D.C.
Academy		B.S. 1936, Southwest Missouri State	
Heinzel, Joseph Russell	D.C.	Teachers College	
Heishman, Jennis Rose, Jr.	W.Va.	A.M. 1940, University of Missouri	
Heisler, George Thomas, Jr.	Tenn.	Henesy, Gregory Thomas	D.C.
Heiss, Harold Burgess	Fla.	Henesy, Thomas Joseph	D.C.
Hekimian, M. J.	D.C.	Henke, Dan Ferdinand	Tex.
Hekimian, Norris Carroll	D.C.	B.S. 1943, Georgetown University	
Held, John Carl, Jr.	D.C.	Henkel, William Curtis	Va.
Helena, Cecil Caryl	Okla.	Hennessey, Loretta Hickey	D.C.
Helfrich, William Goll	D.C.	B.S. 1945, Wilson Teachers College	
Hellan, Ruth	D.C.	Hennessey, Charles Edward	Md.
Heller, Homer Kelsey	Va.	Hennessey, James Joseph, Jr.	Va.
Heller, Milton	D.C.	Hennessey, John William	Conn.
Heller, Niles Roy	D.C.	Hennessey, Vincent Harry	D.C.
B.S. in Ed. 1937, Pennsylvania State		Hennessey, Gerald Craft	D.C.
Teachers College, East Stroudsburg		B.S. 1948, University of Maryland	
Heller, Norman Harold	Md.	Hennings, Ardah Perry	D.C.
Hellmuth, James Grant	N.C.	Henoch, Arthur Saul	Va.
B.S. 1948, Yale University		Henretty, Robert Emmett	Md.
Hellums, Jeannine	D.C.	Henrichs, Margaret Virginia	W.Va.
Helm, Herschel Hancock, Jr.	Ky.	Henry, Edwin Stanton, Jr.	D.C.
A.B. 1948, The George Washington		Henry, Elizabeth Stretch	Va.
University		Henry, Jacqueline Erselle	Va.
Helmandollar, Elinor Pennington	D.C.	Henry, James Ernest	D.C.
Helms, Frances M.	Va.	B.S. 1948, Wake Forest College	
A.B. 1926, Elon College		Henry, James Faulkner	W.Va.
Helmstetter, Norman Edward	N.J.	Henry, James, Jr.	Va.
Helstrom, Warren Richard	Ill.	Henry, Katherine Elizabeth	Pa.
A.B. 1943, DePauw University		A.B. 1947, University of Pennsylvania	
Helton, Henry Stephen	D.C.	Henry, Norman Holden	D.C.
A.B. 1937, Wabash College		Henry, Patrick Francis	Ga.
Helton, Lorraine Marie	Va.	B.S. 1945, Georgia School of Technology	
A.B. 1935, Marshall College		Henry, Thomas Robert	D.C.
Heltzel, Robert Thomas	Va.	Henry, William	Va.
Helwick, Lloyd Edward	Ill.	Hensch, Ruth Edna	Va.
Helzer, Charles William	Fla.	Hense, James Albert	Pa.
B.S. in E.E. 1945, Georgia School		Henshaw, Robert Harvey	Iowa
of Technology		Hensley, Guy Stephen	D.C.
Helzner, Manuel Louis	D.C.	A.B. 1936, University of Oklahoma	
Hemby, John Towney	Tex.	Hensley, Marjorie	D.C.
Hemming, Glen Curtis	Ohio	A.B. 1947, The George Washington	
Hempstead, Walter Allen, Jr.	Va.	University	
Hendershot, Gladys Elaine	D.C.	Henson, Chelsea Lucere	D.C.
Hendershott, Charles Butler	D.C.	Henson, Edwin Nott, Jr.	D.C.
Hendershott, Delores Hagan	Va.	A.B. 1948, The George Washington	
Hendershott, Susan Jane	Md.	University	
Henderson, Douglas	Mass.	Henson, William Jackson	D.C.
B.S. 1940, Boston University		Hepner, Ethel Ellen	D.C.
M.S. 1941, Fletcher School of Law		Hepner, Gerhardt Irving	D.C.
and Diplomacy		Herbert, Edward Leslie	D.C.
Henderson, Helen Neel	D.C.	Herbat, Robert Van Cortlandt	D.C.
Henderson, James Lancaster	Ky.	Herchawkoski, Andrew	Conn.
B.S. 1939, United States Naval		Herde, Jean Frances	D.C.
Academy		Herdeman, M. Joan	D.C.
Henderson, Lyle Emerson	Wis.	Hergenrath, Charles Neale	Md.
B.S. 1945, Northwestern University		A.B. 1948, The George Washington	
Henderson, Mary McCall	D.C.	University	
A.B. 1948, Sweet Briar College		Heriot, Laura Lippitt	Puerto Rico
Henderson, Robert Angus	D.C.	A.B. 1929, The George Washington	
A.B. 1942, University of Toronto,		University	
Canada		Herman, Cecile	D.C.
Henderson, Russell Stewart	D.C.	Herman, Celia J.	N.Y.
Henderson, Sarah R.	Va.	A.B. 1940, Hunter College	
Hendrick, Earl George, Jr.	Va.	Herman, Jack Murray	Mass.
Hendricks, William Charles	N.C.	B.S. in Ed. 1947, Massachusetts	
Hendrickson, Duane Winthrop	N.Y.	State Teachers College	
Hendrickson, Edith Orlena	W.Va.		

Herman, Jack Robert	Va.	Hewitt, Clifford Adelbert	Va.
A.B. 1943, The George Washington University		B.S. 1937, Columbia University	D.C.
Herman, Russel Harold, Jr.	Va.	Hewitt, Morris Frank	Ill.
Herrman, Samuel Sidney	Mass.	Hewlett, Glenn Howard	Va.
Herrmann, Frank Jefferson	Md.	Hewson, Bertha Evelyn	Va.
Hermanson, Carlos Andras	D.C.	Hewson, John Frederick	D.C.
Hernandez, Carlos Juan	Puerto Rico	Heyo, Shoshana	
Herndon, Donald Floyd	D.C.	A.M. 1940, Hebrew University	D.C.
Herndon, William Clifton, Jr.	Tex.	Hiatt, Geneva Morrow	D.C.
Herndon, William Jennings, Jr.	Tenn.	Hiatt, Howard Herschel	Wash.
Hernholm, Edward Pourchasse	Va.	Hickerson, John Hightower	D.C.
Herold, Frank Beverly	Va.	Hickey, Elizabeth Ann	Conn.
B.S. 1915, United States Naval Academy		Hickey, Robert Edmund	Va.
Herr, Harriet Martha	Pa.	Hickok, Ralph	
Herreron, Alberto Pardo	D.C.	B.S. in B.A. 1947, Rutgers University	Pa.
Herrick, Doris Cosper	Mo.	Hicks, James Thomas	
B.S. in Ed. 1940, Washington University		B.S. 1945, A.B., M.S. 1946, University of Pittsburgh	Pa.
A.B. 1948, The George Washington University		Hicks, John Leslie	Md.
Herrick, Harold Colton, Jr.	Mo.	Hicks, Louis Edward	
B.S. 1937, Washington University		A.B. in Govt. 1947, The George Washington University	Va.
Herrin, Daniel Monroe, Jr.	N.C.	Hicks, Wallace Mitchell	La.
Herring, Donald Dewar	Mass.	Hiemenz, James Glenn	N.C.
Herring, Douglas James	Mass.	Hiera, Jasper Theodore	Ind.
Herring, Jane Miquel	Md.	Hiester, Oliver W.	
Herring, Paul Littleton	Md.	A.B. 1941, Wabash College	N.M.
B.S. 1946, University of Maryland		Higbee, Charles Eldon	D.C.
Herrlott, David Paul, Jr.	R.I.	Higgins, Blanche Wirtley	Ill.
Herrmann, Thomas Kurt	D.C.	Higgins, Edward Leo, Jr.	Va.
Herron, Frank, Jr.	Md.	Higgins, Frank Victor	
Hersey, Sheila Sheldon	D.C.	B.S. 1941, Bradley Polytechnic Institute	Fla.
Hershman, Marshall	Mass.	Higgins, Helen Virginia	Ill.
Hershon, Lucille	D.C.	Higgins, Louis Edward	Wis.
Hersman, Lenore Ethel	W.Va.	Higgins, Mary Roe	Tenn.
A.B. 1944, Glenville State College		Higgins, Oma Mae	Va.
Herson, Jeanette	D.C.	Higginson, Ella Joan	Pa.
Hertz, Jean Katherine	D.C.	Higham, Florence Elizabeth	D.C.
Hertz, Jerome Samuel	Mass.	Hilar, Albert Peter	D.C.
Herwin, Anne Hildegarde	Va.	Hildebrand, Charles Oakley	Va.
Herzbrun, Joseph Pere	D.C.	Hildebrand, Herbert William	Pa.
Herzbrun, Nancy Jane	D.C.	Hildebrand, Robert John	D.C.
A.B. 1948, The George Washington University		Hildebrand, Walter Phelps	Pa.
Heisen, Francis Charles	Ga.	Hilderbrant, Earl Foster	D.C.
Heslet, Mary Rhoda	Md.	Hildreth, David Melvin	Md.
Hess, Amelia Willye	Va.	Hildreth, Margaret Sage	D.C.
Hess, Frank Gadd	Pa.	Hildreth, Richard	Colo.
Hess, George Frank, Jr.	Md.	Hill, Arlow Fielding	D.C.
Hess, Ida Irene	Ky.	Hill, Dave Harmon	D.C.
A.B. 1931, Indiana University		Hill, Edward Weathers, Jr.	D.C.
Hess, Maurice Albert	D.C.	Hill, Eleanor Childs	
Hess, Walter Eugene	Md.	A.B. 1948, Vassar College	Md.
A.B. 1934, Gettysburg College		Hill, Gaylord Edward	Pa.
A.M. 1910, University of Wisconsin		Hill, George Richards	Ill.
Hess, Wilbur Kenneth	Pa.	Hill, James Wilburn	
Hess, William Werner	Va.	A.B. 1937, The George Washington University	Md.
Hession, John Joseph	Mass.	Hill, Joseph Carl	
A.B. 1915, Harvard University		B.S. 1940, Mount St. Mary's College	D.C.
M.S. in Ed. 1936, Boston University		Hill, Katherine Luella	D.C.
Hessler, Brian Joseph	D.C.	Hill, Marjorie Ann	Mass.
Hessler, Leo George, Jr.	D.C.	Hill, Mary Emma	
Hester, Donald Comero	Ill.	A.B. 1944, Smith College	Va.
A.B. 1941, Buffalo College		Hill, Richard Work	D.C.
A.M. 1944, Ohio State University		Hill, Rosalie Victoria	
Hester, Juanita	D.C.	Ed.B. 1931, Rhode Island College of Education	D.C.
Hester, Louise	Fla.	Hill, Thomas Burbridge, Jr.	Va.
Hetzler, Marilyn Adair	D.C.	Hill, William Bethel, Jr.	
Hewett, Ellen Nancy	N.Y.	B.Ch.E. 1941, University of Virginia	
Hewett, Norma Jean	D.C.		

Hille, Dagny Margrethe	D.C.	Hjort, Doris Louise	Md.
Hilliard, Charles Luke	N.Y.	Hjort, Helen Josephine	D.C.
Hilliard, Glenn Schwartz	Ala.	Ho, Pei-Shih	China
Hilliard, Kathryn Coombs	D.C.	Ho, Robert	China
Hilliard, Mary Ruffin	Va.	Hoag, Irving Charles, Jr.	Mass.
A.B. 1938, East Carolina Teachers College		Hobbes, Alan Buxton	Fla.
Hillier, Floyd William	Wis.	A.B. 1939, Washington and Lee University	
B.S. 1948, Michigan State College		LL.B. 1947, The George Washington University	
Hillman, Jack Allan	D.C.	Hobbs, Edward Victor	Md.
Hillock, Donald MacLean	D.C.	Hobbs, Gordon Morgan	Va.
Hilton, Emma Catherine	D.C.	Hobbs, Herman Hedberg	D.C.
Hilton, John Perry	D.C.	Hobbs, Ira Earl	Okl.
Hilton, William Philip	D.C.	B.S. 1935, United States Naval Academy	
Himel, William	Va.	A.M. 1948, Stanford University	
B.S. 1937, Northwestern University		Hobbs, Pauline Bowen	D.C.
Himelfarb, Jordan Sheldon	D.C.	A.B. 1922, Goucher College	
Himelfarb, Stanford William	D.C.	Hobbs, Richard Huntington	D.C.
Hinckley, Mary Elisabeth	D.C.	Hobday, Vincent Nelson	D.C.
Hinckley, William Russell	Idaho	Hobson, Daphne Frances	Va.
Hinckley, William Wheeler	Md.	Hobson, Diane Sinclair	Va.
A.B. 1931, Rollins College		Hobson, Melvin Clay	W.Va.
A.M. 1934, Columbia University		B.S. 1948, Virginia Polytechnic Institute	
Hinds, Robert Newton	Md.	Hobson, Stanley Alfred	Fla.
Hinebaugh, John Ellwood	Md.	Hochbaum, Godfrey Martin	Iowa
Hines, Charles Widmire	D.C.	A.B. 1947, American University	
Hines, Clifford Gentner, Jr.	D.C.	Hochmuth, Bruno Arthur	Tex.
A.B. 1947, University of Pennsylvania		B.S. 1935, Texas College of Arts and Industries	
Hines, David Glenn	W.Va.	Hocking, Harold James	Md.
Hines, Robert Haynam	Ohio	Ph.G. 1916, Northwestern University	
B.S. 1945, The George Washington University		Hoddinott, Richard Lamar	D.C.
Hines, Theodore Christian	D.C.	Hodge, Doris Gertrude	Nebr.
Hines, William Albert	Tenn.	Hodge, Dorothy Ann	Nebr.
Hines, Willamette Patricia	D.C.	Hodge, William Rust	D.C.
Hing, Jun	Ill.	Hodges, Quinton Edward	Ga.
Hinkle, Howard, Jr.	D.C.	B.S. 1935, University of Georgia	
Hinman, Elizabeth Ann	N.J.	M.S. 1937, John B. Stetson University	
B.S. 1948, Allegheny College		Hodges, Raymond Lewis	D.C.
Hinrichs, Edith	D.C.	B.S. 1941, University of Maryland	
A.B. 1943, American University		Hodges, Shirley Rice	Va.
Hinsdale, Charles Edwin	N.C.	Hodges, Willard Jefferson, Jr.	Ala.
A.B. 1940, University of North Carolina		LL.B. 1937, University of Alabama	
LL.B. 1946, The George Washington University		Hodgson, Jack Charles	D.C.
Hinton, William Thomas	D.C.	Hodson, Kenneth Joe	Wyo.
Hintze, Arthur Harris	D.C.	A.B. 1935, LL.B. 1937, University of Kansas	
Hintze, William	D.C.	Hoepner, Russell Leroy	D.C.
Hippler, Harry Leonard	Va.	Hoffheins, Louanne	Va.
Hirsch, Robert Bruce	Md.	Hoffman, Arthur Daniel	Va.
Hirsh, Alice Gertrude	D.C.	Hoffman, Bruce Nowell	Md.
Hirshberg, Robert Lowe	Ohio	Hoffman, Charles Wilbur	D.C.
A.B. 1940, Oberlin College		Hoffman, Conrad Richard	N.Y.
Hirst, Mary Cornell	Md.	Hoffman, George August	Miss.
A.B. 1945, Goucher College		Hoffman, Harry Draper	D.C.
Hisey, Donald Gene	Va.	B.S. 1917, United States Naval Academy	
Hiss, Alfred Lee	W.Va.	M.S. 1927, Massachusetts Institute of Technology	
Hitchcock, Barbara Singley	D.C.	Hoffman, Howard Gilmer	D.C.
A.B. 1943, Columbia University		Hoffman, Philip Vincent	Va.
Hite, Agnes Elizabeth	D.C.	Hoffman, Robert Douglas	Md.
Hite, Winston Martin	Va.	Hoffman, Rubin	Md.
Hites, Zebulon Weaver	N.C.	B.Ch.E. 1937, College of the City of New York	
Hitz, Frederick William, Jr.	Pa.	Hoffmann, Eve Ruth	N.Y.
B.S. 1939, Pennsylvania State College		Hoffmann, Joan	N.Y.
Hively, Edward Lee	D.C.	Hofrichter, Leonore A.	D.C.
B.S. 1944, University of Florida		Hogan, Douglas LeRoy	Va.
Hix, Ernest Theodore	Va.		
B.M.E. 1949, The George Washington University			
Hix, Richard Charles	Va.		
Hixon, Deion Lyle	Ala.		
Hixson, Vernon Irvin	Va.		

Hogan, Edward Eugene Ph.B. 1931, M.D. 1936, Yale University	N.Y.	Hollon, Joseph Burke	D.C.
Hogan, John Edward	Va.	Hollon, Thomas Harry	D.C.
Hogan, Julia May	D.C.	Holloway, John Ennis	Md.
Hogan, Rosemary	D.C.	Holly, Evelyn Margaret	Va.
Hogan, Walter Thomas, Jr.	Ill.	Holman, Bobby Gene	Ark.
Hogenson, Beatrice Mabel	D.C.	Holman, Oren Welch	Pa.
A.B. 1933, University of Utah		B.S. 1931, California State Teachers College	
Hogewind, Cornelia Johanna	D.C.	Holme, Justus Mitchell	Md.
A.B. 1947, Smith College		B.S. in C.E. 1930, M.S. in C.E. 1940, University of Pennsylvania	
Hogue, William Marston	D.C.	M.S. 1933, Lehigh University	
A.B. 1948, The George Washington University		Holmes, Gerald Peter	Wash.
Hohlt, Charlotte Wilhelmine	Md.	A.B. 1947, University of Washington	D.C.
Hokanson, Oscar Melvin	Va.	Holmes, Jentry Scott	
Hoke, John Ray	Va.	A.B. 1948, The George Washington University	
Hoke, Julius Unverzagt	Pa.	Holmes, Paul Francis	D.C.
B.S. in Ed. 1940, Shippensburg State Teachers College, Pa.		Holmes, Rita Jane	Va.
Hoke, Neil Herman	D.C.	A.B. 1945, The George Washington University	
Holben, Donald Russell	Va.	Holober, Melvin Charles	D.C.
Holbrook, Arthur Paul	Va.	A.B. 1940, The George Washington University	
Holbrook, Ollie James	Ky.	Holroyd, Richard Charles	Conn.
Holbrook, Richard David	D.C.	Holst, Arthur William	Md.
Holcombe, William Callia	Ala.	A.B. 1947, University of Chattanooga	
Holden, David Jerome	S.D.	Holt, Arthur Melvin	Tex.
Holden, Dolores Marie	Vt.	A.B. 1945, University of Texas	Mich.
A.B. 1947, Smith College		Holt, Charles Hodge	
Holden, Jack Pritchard	Md.	B.S. 1938, United States Naval Academy	Tenn.
Holden, Richard	Md.	Holt, David	
B.S. 1937, United States Naval Academy		A.B. 1947, University of New Hampshire	Ill.
Holder, Carol Elizabeth	D.C.	Holt, Edward Brewster	
Holdsambeck, Sam	Ala.	B.S. 1947, University of Michigan	Wash.
Holeman, William Daniel	Tenn.	Holt, James Howard	Va.
Holford, Bond Larry	Md.	Holt, Robert Earl	Va.
Holland, Alan Randolph	Va.	Holter, William Clinton	
Holland, Daniel Brown	D.C.	A.B. 1947, Ripon College	D.C.
Holland, Denzel Hotaling	D.C.	Holtz, Herbert Manuel	N.Y.
Holland, Garrin Edward	Va.	Holtz, Leslie Clyde	N.Y.
Holland, Griffin Bryan	Md.	Holtzman, Irving	
B.S. 1947, University of North Carolina		A.B. 1940, Brooklyn College	D.C.
Holland, Joe Warren	Va.	Holtzman, Marilyn	Miss.
Holland, Merle Fleming	Va.	Holyfield, Thomas Kennedy	
Holland, Townsend Stanley, Jr.	Md.	A.B. 1941, Millsaps College	Md.
B.S. 1946, University of North Carolina		Holzworth, Dorothy Catherine	
Hollar, Frank Elmer	Kans.	A.B. 1944, College of Notre Dame of Maryland	
Holleman, Joseph Tullie	Ky.	A.M. 1946, Catholic University of America	Nebr.
B.S. 1945, United States Naval Academy		Homes, Orville Gene	Va.
Holleman, Martin Everett	D.C.	Honabach, Elmer Wilson	Maine
Holliday, Frances	Ind.	Hone, Jacqueline Hauzeur	W.Va.
B.S. in Ed. 1920, Northwest Missouri State Teachers College		Honecker, Benjamin Robert	
A.M. 1927, University of Missouri	Pa.	B.S. 1941, University of Pennsylvania	D.C.
Holliday, Reynold Ross	D.C.	Honemann, Jean Louise	N.J.
Hollinshead, Martha Stewart	D.C.	Honey, Nancy Lee	D.C.
Hollinshead, Robert Sullivan	D.C.	Hong, Ching Chong	
Hollinsworth, Gerald Eugene	D.C.	A.B. 1927, San Diego State College	
Hollinsworth, Russell Kahner, Jr.	Va.	A.M. 1920, Columbia University	Md.
Hollinsworth, William Leon	Miss.	Honick, Kolanda	N.Y.
Hollis, Elda Lorraine	Pa.	Honig, Doris Marcelle	
Hollis, Frank	D.C.	A.B. 1944, Hunter College	D.C.
Hollis, Helen Louise	D.C.	Honig, Irene Helene	Colo.
Hollis, Thelma Elizabeth	D.C.	Hood, Charles Fuller	
Hollister, Robert Francis	D.C.	A.B. 1947, Colorado State College	Md.
B.S. in B.A. 1943, LL.B. 1948, Georgetown University		Hood, Courtney Clark	
Hollon, Dan Sherwin	D.C.	A.B. 1948, The George Washington University	

Hood, Earl Winston	Va.	Horowitz, Milton Arthur	D.C.
Hook, George Oliver	Pa.	Horowitz, Norman	N.Y.
Hook, Thomas Mitchell	Va.	B.E.E. 1948, Syracuse University	
Hooks, Arnold David	Ark.	Horowitz, Robert Solovey	Md.
Hoopaw, Vivianne Lucy	Va.	Hort, Edward Answorth	Pa.
A.B. 1944, The George Washington University		A.B. 1944, M.D. 1946, University of Pennsylvania	
Hooper, Albert Gordon, Jr.	D.C.	M.P.H. 1948, Johns Hopkins University	
Hooper, Edwin Bickford	Mass.	Horton, Donald Raymond	N.D.
B.S. 1931, United States Naval Academy		A.B. 1948, State Teachers College, Valley City, N.D.	
M.S. 1940, Massachusetts Institute of Technology		Horvath, Elizabeth Ann	Va.
Hooper, Kenneth Cameron	Mass.	Horvath, Leo James	Pa.
Hoopes, David Spencer	D.C.	B.S. 1947, Pennsylvania State College	
Hoopes, Ray Harry, Jr.	D.C.	Horwitz, Harold	N.Y.
A.B. 1943, The George Washington University		Horwitz, Harvey	D.C.
Hoopes, Townsend Walter	N.Y.	Hoschar, Gilbert Edgar	Va.
A.B. 1943, Yale University		Hoshida, Toshio	Calif.
Hoover, Charles R.	Wyo.	Hosier, Richard Charles	D.C.
Hoover, Elizabeth Jane	Pa.	Hoskins, Edna Charles	N.H.
Hoover, Georgiana Christine	D.C.	A.B. 1946, Earlham College	
Hoover, John Lynn	Va.	Hosley, Alice Louise	D.C.
A.B. 1927, Western Kentucky Teachers College		Hossfeld, Raymond Frederick	D.C.
A.M. 1934, University of Kentucky		B.S. in E.E. 1930, LL.B. 1934, The George Washington University	
Hoover, Wallace Archer	D.C.	Hostetler, Howard R.	Md.
Hope, Robert Stocks	Va.	Hortel, Catherine Alice	D.C.
Hopkins, Joan Cretcher	D.C.	Houck, David Russell	D.C.
Hopkins, John Thomas, Jr.	D.C.	Hoeff, Janet Mildred	D.C.
Hopkins, John William	Pa.	Hough, Herbert Jules	D.C.
Hopkins, Stephen Cornwell	D.C.	Houghton, Edwin Gordon	Va.
Hopkins, Theodore Reed	Calif.	Houghton, Robert Clarence	N.Y.
A.B. 1947, Stanford University		Houghton, Ruth Aratha	Mass.
Hopkins, Thomas Walton	Md.	Houk, Io Anne	Va.
B.S. 1912, United States Naval Academy		Houk, Robin Hall	D.C.
Hopper, Henry Pearson	Pa.	B.S. in C.E. 1948, The George Washington University	
B.S. in Ed. 1933, M.S. in Ed. 1934, University of Pennsylvania		Houlditch, George Sam, Jr.	D.C.
Hopper, Katherine Edmondson	Va.	Houle, Roger Audy	D.C.
B.S. 1920, Mary Washington College		House, Edward Hedley	Va.
Hopper, Nathaniel Wilson	Md.	House, John R.	Md.
Hopper, Thomas Bradford, Jr.	D.C.	House, Lawrence Samuel	Md.
Hoppy, Louise Marie	Okla.	House, Lucy Virginia	D.C.
Hopson, Jeanne Louise	Ill.	House, Wayne DeWitt	Va.
Horan, Robert Bailey	D.C.	Houseal, Robert Wright, Jr.	S.C.
Hord, Keith Stuart	D.C.	B.S. 1948, The Citadel	
Horiuchi, Harold Shigeo	Md.	Houser, Albert Frederick	D.C.
Horkan, George Anthony, Jr.	D.C.	Houser, Frederick Russell	Pa.
A.B. 1941, University of Pennsylvania		Houser, Herbert Harold	D.C.
LL.B. 1948, The George Washington University		Housman, Helen Frances	Md.
Hormel, John Edward	Va.	B.S. 1946, Madison College	
Horn, Arthur Warren May	Md.	Houston, James Knox	N.Y.
Horn, Henry Joseph	Pa.	Houston, Robert Joseph	D.C.
B.S. in E.E. 1941, Lehigh University		Houston, Sam, Jr.	D.C.
Horn, Herbert Oeden	Va.	Houts, Vernon VanCleve	Md.
Horn, James McNabb	Va.	B.S. 1936, Baker University	
Horn, Rita Louise	Md.	Hovatter, Eugenous Melker	W.Va.
Horne, Leon Russell	Mass.	Hovemale, Elsie Lemley	D.C.
B.S. 1943, Northeastern University		Hoverson, Jean Cecelia	Va.
Hornsby, William Paul	Ala.	Howar, Raymond Joseph	D.C.
Hornstein, Ida Edith	D.C.	Howard, Betty Jane	Md.
Horowitz, Elias	D.C.	Howard, Edward Digges	D.C.
B.S.S. 1941, College of the City of New York		Howard, Hope Myrth	D.C.
Horowitz, Herbert David	Pa.	A.B. 1948, The George Washington University	
LL.B. 1948, The George Washington University		Howard, John William	D.C.
		Howard, Lynn Hanford	Iowa
		Howard, Robert Lynwood	Ala.
		A.B. 1948, University of Alabama	

Howard, Roy Arthur B.S. in E.E. 1948, Oregon State College	D.C.	Huber, Henry Christian	D.C.
Howard, Sidney H.	N.Y.	Hubert, William Francis	N.Y.
Howard, Truth Phyllis	D.C.	Huck, Clifford James	Iowa
Howard, William John, Jr.	D.C.	Hude, Harry William	Miss.
Howard, William Rolland	D.C.	Hudgens, Ann Shearer	Va.
Howe, Alice Margaret	D.C.	Hudgins, John Jefferson	D.C.
Howe, Barbara	D.C.	Hudgins, John Melton, Jr.	Va.
B.S. 1946, Wilson Teachers College		Hudkins, Thomas Robert	D.C.
Howe, Denis Herbert George	Md.	Hudock, Helene Eugenia	Ohio
Howe, Gerald Shropshire	D.C.	Hudson, Dugald Walker	S.C.
Howe, Henry Burks	Va.	B.S. 1940, Presbyterian College	Pa.
Howell, Anne Thomas	D.C.	Hudson, Frank Nece	
Howell, David Mitchell	D.C.	B.S. in M.E. 1944, Drexel Institute of Technology	
Howell, Frances Ludd	D.C.	Hudson, James Matthew	W.Va.
Howell, William Arthur	D.C.	A.B. 1948, The George Washington University	
Hower, Nelson Luther, Jr.	La.	Hudson, Kharmin Maxine	Va.
A.B. 1948, Louisiana Polytechnic Institute		Hudson, Robert Roy, Jr.	Va.
Howarth, Shirley Claire	D.C.	Hudson, Roy Allan	D.C.
Howerton, Hugh King	D.C.	A.B. 1948, University of Arkansas	Tex.
A.B. 1941, Northeast Missouri State Teachers College		Huey, Endera Philip	
A.M. 1947, The George Washington University		B.S. 1941, United States Naval Academy	D.C. Calif.
Howerton, Joseph Benjamin	Md. Ohio	Huey, Robert Carter	
Howes, Charles F.	D.C.	Huey, William Moreland, Jr.	
Howes, James Knox	N.J.	A.B. 1946, University of California	D.C.
Howett, Jay Miller	Mass.	M.B.A. 1948, Harvard University	Md.
Howett, Mervyn Kenneth	Mass.	Huff, Marion Mitchell	Ga.
Howie, Donald Lynk	D.C.	Huffman, Randolph Edgar	Md.
Howison, Irene S.	D.C.	Huffman, Robert Ephraim	Va.
Howley, John Reed		Huffman, William Ewart	D.C.
A.B. 1941, Georgetown University		Hufford, Priscilla Frances	D.C.
Hoxton, Archibald Robinson, Jr.	Va.	Hughes, Brandau Chappelle	D.C.
A.B. 1940, Yale University		Hughes, Brent Harland	D.C.
Hoyle, Anne Mildred	Md.	Hughes, Edmund Crump	D.C.
B.S. 1941, University of Maryland		Hughes, Edna Cornelia	Pa.
A.M. 1946, Teachers College, Columbia University		Hughes, Edward James	Pa.
Hoyle, Laura Moore	D.C.	Hughes, Elizabeth Margaret	Va.
Hoyme, Lucile Eleanor	D.C.	Hughes, Emra Dall	D.C.
Hoyt, John G.	Ohio	Hughes, Eugene Francis	D.C.
B.S. 1943, United States Military Academy		Hughes, Francis Homer, Jr.	Md.
Hoyt, Homer Lewis	D.C.	B.S. 1946, Salem College	Md.
Hoyt, Jeanne Edith	D.C.	Hughes, Jacob William	
Hoyt, John Paul	Md.	Hughes, James Thomas	
B.S. 1948, Middlebury College		B.S. 1940, Southern Methodist University	Va.
A.M. 1947, Columbia University		Hughes, John Temple	D.C.
Hoyt, Kenneth Boyd	Md.	Hughes, Marjory Eleanor	Va.
B.S. 1948, University of Maryland		Hughes, William Charles	Ohio
Hoyt, William George	N.Y.	Hughes, William Malcolm	Pa.
Hronopoulos, Era Chris	Ohio	Hughes, Witton John	China
Hsiao, Nai-Shen	D.C.	Hui, Wing Yam	Md.
A.B. 1940, Nan-Kai University		Hulbert, Virginia Witherspoon	
Huang, Shing-Yi	China	A.B. 1947, The George Washington University	Va.
A.B. 1948, Central Institute of Political Sciences, China		Hulfish, Harry	Va.
Hoard, Louis Philippe Roger	N.H.	Hulfish, Jane Pennington	Va.
B.S. 1948, Georgetown University		Hulfish, Joan Spofford	Tenn.
Hubbard, David	Va.	Hull, Alexander Harold, Jr.	Tenn.
Hubbard, Miles Hunter	Va.	Hull, Maury Isaac	
B.S. 1947, United States Naval Academy		A.B. 1932, Southwestern University	
Hubbard, Myla	Ind.	A.M. 1946, The George Washington University	Miss.
Hubbard, Russell Hale, Jr.	Conn.	Hull, Ruth Buckley	
B.S. in E.E. 1944, Syracuse University		B.S. 1940, Mississippi Delta State Teachers College	N.Y.
Hubbell, Sarah Glazier	Va.	Hull, Warren Robertson	D.C.
Huber, Charles Andrew	Pa.	Hulse, Fred Elbert	D.C.
		Hulse, Judson Dowling	D.C.
		Hult, Tora Mazamba	Va.
		Hulvey, Charles Newton, Jr.	
		B.S. 1946, University of Virginia	

Hume, John Wesley	Wis.	Hurwitz, William	D.C.
Hume, William Haywood	Va.	Husar, Edward John	Ill.
Humes, Theodore Leon	Pa.	A.B. 1946, The George Washington University	
A.B. 1948, University of Pittsburgh		Huston, Marjory Alice	Ohio
Hummer, Robert Warren	D.C.	Hutchins, Thomas Jackson	D.C.
Humphrey, John Julian	N.Y.	Hutchinson, Claudia Helene	D.C.
Humphries, Clayborne Mason	D.C.	Hutchinson, Eileen Marie	D.C.
Hundley, Henry Robert	W.Va.	Hutchinson, George Earl	D.C.
Hundley, Herbert Wendell	D.C.	Hutchinson, Herbert Malcolm	N.J.
Hungerford, James Ferguson	D.C.	A.B. 1948, Duke University	
Hunley, William Henry	D.C.	Hutchinson, Nina	Mich.
Hunsaker, Katherine Frances	D.C.	Hutchison, Terrell Warren	Va.
Hunsberger, Martin Leroy	Pa.	Hutmire, Edward William	Calif.
Hunsicker, Charles, Jr.	Md.	Hutson, Harrison Darlen	La.
A.B. 1928, Princeton University		A.B. 1948, Southeastern Louisiana College	
LL.B. 1931, University of Pennsylvania		Hutt, James Brooks, Jr.	Va.
Hunt, Alfred Edward	England	B.S. in E.E. 1942, University of Michigan	
Hunt, Leigh Hale	Ill.	Hutt, Stanley David	D.C.
A.B. 1928, LL.B. 1930, University of Illinois		Hutt, Vincent Benjamin	N.Y.
Hunt, Lyman Willis	D.C.	Hutter, Samuel	N.Y.
Hunt, Niozelle	Tenn.	Hutto, Henry Elvin	Fla.
Hunt, Patricia Ann	D.C.	Hutton, Daniel Cogdell	D.C.
Hunt, Robert Miller	D.C.	A.B. 1947, University of Utah	
Hunt, Thomas Joseph	Md.	Hutzler, Harriet	Va.
Hunter, Donald Vandsdal, Jr.	Md.	A.B. 1947, Goucher College	
Hunter, Edith May	Mass.	Huyer, Anne	N.Y.
Hunter, Eldred Tait, Jr.	D.C.	Hyde, Edward Richard	N.Y.
Hunter, George Homer	D.C.	B.S. in E.E. 1948, Purdue University	
Hunter, Guy Norman	D.C.	Hyde, Grant Lafayette	Calif.
Hunter, Jessica Smith	N.Y.	Hyde, Joanne Stratford	Md.
B.S. 1942, Oneonta State Teachers College, N. Y.		Hydeman, William Robert	Ohio
Hunter, John Behr	W.Va.	A.B. 1935, Miami University	
Hunter, Marilyn Jean	Va.	A.M. 1937, Syracuse University	
Hunter, Millard Stanton	N.C.	Hyer, William Fred	Tex.
B.S. 1938, University of North Carolina		B.S. 1942, Oklahoma Agricultural and Mechanical College	
Hunter, William Campbell	Md.	Hylant, Emory Paul	D.C.
Huntton, Richard Edwin	D.C.	Hyman, Faye Marlowe	D.C.
Huntsberger, Carl Myron, Jr.	Va.	Hymowitz, Helen	D.C.
A.B. 1941, California Institute of Technology		Hymowitz, Shirley L.	D.C.
Huntt, Estella Elizabeth	Md.	Hynes, Robert Edward	Va.
Hupp, Stuart Russell	N.J.	Hynes, Thomas Edmund	Maine
Huppmann, Charles James, Jr.	Va.		
Hurd, Marjorie Kathryn	D.C.	I	
Hurel, Robert Andre	Md.	Iacangelo, Ralph Pasquale	D.C.
Hurkett, Jack Walter	D.C.	B.S. 1948, Wilson Teachers College	
Hurlbut, John Henry	D.C.	Iadarola, Joseph Michael	N.Y.
Hurley, Charles Warren	Md.	Iandolo, Angelo John	N.Y.
Hurley, Irene Roberts	D.C.	Ichikawa, Torao George	Calif.
B.S. 1948, Wilson Teachers College		A.B. 1939, University of California	
Hurley, John James	D.C.	Ichijui, Kazumae	Calif.
A.B. 1948, The George Washington University		Iddings, Lloyd Andre	Va.
Hurley, Karl Corley	Md.	Ihara, Hideo	Calif.
Hurley, Robert Edward	Md.	Ihrig, Katherine Aura	Ohio
Hurley, Thomas J.	D.C.	A.B. 1930, University of Wisconsin	
Hurschman, Jack	D.C.	Ikegami, David Takeshi	Hawaii
Hurson, James Vincent	Md.	Imirie, Charles Wade	Md.
B.S. 1948, American University		Imlay, Carl Hudson	D.C.
Hurst, Carl Wilson, Jr.	D.C.	A.B. 1946, Harvard University	
Hurst, Clyde	D.C.	Immen, Norbert George	D.C.
Hurst, Donald Andrew	Va.	Imrey, Mary Edythe	D.C.
Hurst, Georgia Leone	Mo.	Imster, Harry Frederick	Iowa
Hurst, Lorena Rosa	D.C.	B.S. 1946, University of Michigan	
Hurst, Thomas Lee	Md.	M.S. 1947, M.S. in A.E. 1948, California Institute of Technology	
Hurt, Mary Tex	Ala.	Indorf, Frederick Anderson	Mo.
Hurwitz, Harlan Earl	D.C.	B.S. 1938, University of Missouri	
Hurwitz, Shirley	N.C.	Infosino, Carmelo John	N.J.
B.S. in Pharm. 1945, University of North Carolina		Ingalls, Audrey Elizabeth	Md.

Ingalls, Curtis Wayne	S.D.	Jackson, Bob Walter	
Ingalls, Virginia Isobel	Maine	Jackson, Charles Louis	Va.
Ingerson, Robert Bruce	Minn.	Jackson, Duane J.	Okl.
Ingoldsby, James Leo	Va.	B.S. 1936, Central State College	
Ingram, Frances Baker	D.C.	Jackson, Frances Beatrice	Tenn.
A.B. 1947, The George Washington University		B.S. 1931, East Tennessee State College	
Ingram, Robert Lee	N.C.	Jackson, Frank Shields	D.C.
Innes, Yvonne Keelda	D.C.	A.B. 1947, The George Washington University	
Inserni, Hiram	D.C.	Jackson, George Richardson	D.C.
Intrater, Natalie Block	D.C.	Jackson, George Willie	D.C.
Inzanna, Joseph Francis	D.C.	Jackson, James Douglas	D.C.
Ionnitiu, Mircea	D.C.	Jackson, Joseph Brown, Jr.	Tex.
LL.B. 1944, University of Buckard		A.B. 1946, Texas Technological College	
Ireland, Ana Evelyn	Ind.	Jackson, Joseph Warren	Ga.
A.B. 1938, A.M. 1941, The George Washington University		Jackson, Luther Harden	Va.
Ireland, Mary Louise	Md.	Jackson, Marjorie Ann	Md.
A.B. 1937, Western Maryland College		Jackson, Martha Nell	Tenn.
Irico, Joseph	N.Y.	Jackson, Owen Wilson, Jr.	D.C.
Ireland, Ruth Mitchell	Pa.	Jackson, Philip Grant	D.C.
B.S. 1946, Bucknell University		Jackson, Rita Anne	D.C.
M.S. 1948, Wayne University		Jackson, Robert Eugene	Ind.
Irvine, Herbert McClellan	W.Va.	B.S. 1947, The George Washington University	
A.B. in Ed. 1941, Shepherd College		Jackson, Robert McClelland	D.C.
Irvings, George Timothy	Iowa	Jackson, Ruth	Md.
Irwin, Grattan George	W.Va.	A.B. 1948, The George Washington University	
A.B. 1947, West Virginia University		Jackson, Sarah Whets	Va.
Irwin, Harry Elmer	D.C.	A.B. 1928, Agnes Scott College	
Irwin, Mort Foster	D.C.	B.S. in L.S. 1930, Emory University	D.C.
Irwin, Ray William	Pa.	Jackson, Thomas Lester	Calif.
Isaac, Charles Martin	D.C.	Jackson, William D'Aguiar	
Isaac, Elsie Ledger	Md.	B.S. in B.A. 1937, University of Southern California	
Isaac, Isadore	D.C.	Jackson, William Edward, Jr.	D.C.
Isaacs, Irma	Ill.	Jackson, Wilma Leona	Ohio
Isbell, Frances Wyatt	Tex.	Jacob, John Brevard	D.C.
A.B. 1947, College of William and Mary		Jacob, Phyllis Eileen	D.C.
Isbell, Frank Marshall	D.C.	Jacob, Wayne Thompson	N.Y.
Isen, Forester William	D.C.	Jacobs, Arthur Alfred	Md.
Iseni, Kathleen	Calif.	B.S. 1930, New York University	
Ishee, Tommy Coble	Miss.	Jacobs, James Wreiley	Md.
A.B. 1946, Mississippi State College		Jacobs, Judith Florence	D.C.
Ishiguro, Emiko	Pa.	Jacobs, Judith Frank	D.C.
A.B. 1945, Wellesley College		A.B. 1946, Antioch College	
Ishio, Sunao	Utah	A.M. 1947, The George Washington University	
Ishiyama, Kyoko	Va.	Jacobs, Milton	D.C.
Iskrant, Albert Patrick	Ireland	A.B. 1948, The George Washington University	
B.S. 1930, University of Ireland		Jacobs, Morton Clifford	D.C.
A.M. 1941, Catholic University of America		B.S. 1943, College of the City of New York	
Iser, Jeanette Arlene Caroll	Ill.	Jacobs, Sidney Powell, Jr.	Va.
Isey, Dale Elmer	D.C.	Jacobs, Walter William	N.Y.
Ison, Clifford Clinton	Ill.	B.S. 1914, College of the City of New York	
B.S. 1939, Kansas State College		A.M. 1940, The George Washington University	
Israel, Thomas Sewell	Md.	Jacobs, William Henry	D.C.
Itkin, Karl	D.C.	Jacobson, Allen Sander	D.C.
B.S. in Ed.E. 1934, Cooper Union		Jacobson, Elizabeth Irene	Neb.
Iudicello, Lawrence Samuel	D.C.	Jacobson, Martin	D.C.
Iuey, William Richard	Fla.	B.S. 1940, College of the City of New York	
Iuso, Mary Jo	N.J.	A.B. 1948, The George Washington University	
		Jacobson, Rita Florence	Va.
		Jacobson, Shirley	D.C.
		Jacobson, Wesley Cassel	D.C.
		B.S. 1940, College of the City of New York	
		Jacobson, Odd Thomas	N.D.
		A.B. 1948, The George Washington University	
		Jacobson, Rita Florence	Va.
		Jacobson, Shirley	D.C.
		Jacobson, Wesley Cassel	D.C.

Jacoby, Jacquelyn Frances	Va.	Jeffers, John Cordell	Va.
Jacoby, Katherine	Mo.	Jefferson, Alfred Carter	Tex.
A.B. 1941, Lindenwood College		Jefferson, Jennie Marguerite	Va.
Jacoby, Margery Ann	Mo.	Jefferson, Louis Wilson, Jr.	D.C.
Jaechel, Georgie Marion	Fla.	Jefferson, William Douglas	D.C.
A.B. 1948, Florida Southern College		Jeffery, Kenneth Lee	Va.
Jaeger, Cynthia Ann	D.C.	B.S. 1938, University of Pennsylvania	
Jaeschke, John Henry	D.C.	Jeffrey, Charles Thomas	D.C.
Jaffe, Eli	Va.	Jeffries, Albert Carmie	D.C.
Jaffe, Irving	N.Y.	A.B. 1948, The George Washington University	
A.B. 1948, New York University		Jeffries, Ardith Elaine	D.C.
Jaffe, Irving Stanley	N.Y.	Jeffries, Corinne Flegen	Va.
A.B. 1945, University of Michigan		A.B. 1944, Baldwin-Wallace College	
Jaffe, Sidney Abraham	D.C.	Jeffries, Helen	Va.
A.B. 1938, The George Washington University		Jeffries, John, Jr.	W.Va.
Jaffee, Max	N.Y.	B.S. 1947, Harvard University	
Jagbandhansingh, Alvan Emerson	D.C.	Jeffries, Virginia Lee	D.C.
Jaicks, Agar	Ill.	Jeffries, William Mac	Va.
Jaimendes, John Joseph	Md.	Jelalian, Ashod	Mass.
Jakes, Robert	Tenn.	Jelling, Winifred Morgan	Va.
A.B. 1928, Vanderbilt University		Jemison, Dorothy Allen	D.C.
James, Andrea Lee	Pa.	Jenkel, Albert Arthur	Iowa
James, Edith Lee	D.C.	Jenkel, Martin John, Jr.	Iowa
James, Festus Burrell	W.Va.	Jenkins, Arthur Lee	Md.
James, Gladys Elizabeth	Va.	Jenkins, David Kay	Pa.
James, Howard Victor	Md.	Jenkins, George Marion	D.C.
James, Lloyd Edward	Ill.	Jenkins, Kempton Boyce	Va.
James, Lois Knightley	Mass.	A.B. 1948, Bowling Green State University	
B.S. in Ed. 1937, M.S. in Ed. 1941, Boston University		Jenkins, Otis Marshall	Va.
James, M. Lucille	Va.	Jenkins, Robert Lawrence	Pa.
James, Paul Marshall	D.C.	Jenks, Loren Morgan, Jr.	Va.
James, Robert Wilson	D.C.	Jennings, Barnard Fulton	Va.
Jameson, Anne Pappas	Mass.	B.S. 1948, University of Virginia	
Jameson, Mary Mildred	Fla.	Jennings, Floyd	D.C.
Jameson, William Franklin	Md.	Jennings, James Murray	D.C.
Jampolsky, Alton Morton	R.I.	Jennings, Marvin Edward, Jr.	Va.
Jan, Helen Regina	N.J.	Jennings, Mary Claire	D.C.
Jan, John	N.J.	Jennings, Nancy Alice	Md.
Janes, David Griffing	Wis.	Jensen, Earl H.	Okl.
A.B. 1937, Carroll College		Jensen, Ellinor Christel	Germany
Janguila, Robert Eugene	S.D.	A.B. 1941, Teachers College of Copenhagen	
Janke, Edward Frederick	D.C.	Jensen, Mabel S.	Mass.
Janoski, Joseph Andrew	N.J.	Jensen, Raymond Allen	D.C.
Janson, Lars Edward	Va.	A.B. 1948, Bowdoin College	
Janssen, William Joseph	N.Y.	Jensen, Samuel Byron	Wyo.
Jaramillo, Amelia Canlas	Calif.	Jensen, Willis John	Wyo.
Jardine, James Carroon	D.C.	B.S. 1947, Pennsylvania State College	
Jarema, Frank Gerald	Ohio	Jentile, Ralph Francis	Pa.
Jarrell, Virginia Lee	D.C.	Jentzen, Antoinette Eugenie	N.J.
Jarrett, Charles Harold	Va.	Jeppson, Shirley Melvin	Utah
Jarvinen, Henry Waino	N.Y.	Jernberg, Dale Leonard	Md.
A.B. 1939, Wesleyan University		Jerome, Charles Joseph	N.Y.
A.M. 1941, Columbia University		Jessop, Walter Manford	Va.
Jarvis, Albie Joseph	Mass.	Jeter, William Tyres	Okl.
Jasch, Josephine Luge	Md.	Jett, Lewis Archie, Jr.	Va.
Jasch, Verlin Elmer	Ind.	A.B. 1941, College of William and Mary	
Jaskiewicz, Edmund Michael	Conn.	Jew, Kee Kai	D.C.
B.S. 1947, University of Connecticut		Jewell, Joseph Thomas, Jr.	D.C.
Jaskiewicz, Joseph Francis	Pa.	Jewett, Vivian Holland	Va.
Jaskot, Catherine Ann	Vt.	Jividen, Randolph Lane	W.Va.
Jasper, Estelle Shirley	N.Y.	Jobe, Harrel Kent	Va.
Jasper, James Dudley	Va.	Jobe, Milton Lockwood	Ala.
Jass, Andrew Edward	N.Y.	Jobe, William Theodore	D.C.
Jaszczult, Thaddeus Peter	Va.	Jobsis, Frans Frederick	D.C.
B.S. in E.E. 1939, Newark College of Engineering		Joel, Clark	N.Y.
Jayne, Martha	Pa.	Joel, Lambert Savel	D.C.
B.S. 1940, Pennsylvania State College		Joffe, Howard Nathan	N.Y.
Jaynes, John Thomas	Kans.	Johann, Walter D.	Iowa
Jecke, Perry Joseph	Md.	Johansen, John Edwin	Ala.
Jedruch, Joseph Stanley	Pa.		

Johler, Joseph Ralph	Pa.	Johnson, John	Va.
A.B. 1941, American University		Johnson, John August, Jr.	D.C.
Johnnes, Peretz William	Ohio	LL.B. 1934, LL.M. 1940, Washington	
Johns, Jaquelin Smith	D.C.	College of Law	
Johnsmeyer, Carolyn Eileen	Kans.	Johnson, John Burges	D.C.
Johnson, Albert E.	D.C.	Johnson, John Edgar	Ill.
Johnson, Albert Edward	Ind.	Johnson, John Henry	D.C.
Ph.B. 1939, LL.B. 1932, Yale		Johnson, John Sterling	Va.
University		Johnson, John Vincent	Md.
Johnson, Albert Sidney	Md.	Johnson, Joyce Elizabeth	D.C.
B.S. 1936, University of South		Johnson, Karen	Org.
Carolina		Johnson, Keifer Raye	Ala.
Johnson, Alfred Paul	Mass.	A.B. 1945, The George Washington	
Johnson, Andrew Robert	N.J.	University	
Johnson, Becky	N.C.	Johnson, Lauren Merle	Kans.
Johnson, Benjamin Thomas	D.C.	Johnson, Lee Reames	Va.
Johnson, Bernard Lee	D.C.	Johnson, Leighton Eugene	Va.
Johnson, Bernard Robert	Tex.	Johnson, Leslie Addison	Ohio
Johnson, Carl Richard Dean	D.C.	Johnson, Louis Earl	D.C.
Johnson, Cecil Davis	Va.	Johnson, Margaret Elizabeth	D.C.
A.B. 1948, University of Kansas City		Johnson, Margaret Miriam	Pa.
Johnson, Charlotte Albertina	Minn.	B.S. in Ed. 1942, State Teachers	
B.B.A. 1932, University of Minnesota		College, California, Pa.	
Johnson, Clarence Arthur	Pa.	Johnson, Marjorie Pennington	Md.
A.B. 1935, Pennsylvania State College		Johnson, Mary Tabitha	D.C.
Johnson, Clarence Walter	D.C.	Johnson, Naomi	D.C.
Johnson, Clyde George	D.C.	Johnson, Nellie D.	Iowa
Johnson, Daniel Bruce	D.C.	Johnson, Noreen	N.Y.
Johnson, Daniel Lyle	W.Va.	Johnson, Norton Steele	D.C.
A.B. 1949, Shepherd College		Johnson, Olin Beeler	Mo.
Johnson, Daniel Lynn	Md.	A.B. 1944, Western Michigan College	Va.
Johnson, Darrell Edward	D.C.	Johnson, Patricia Anne	N.J.
Johnson, Donald Holmberg	Md.	Johnson, Patricia Gilmore	N.H.
Johnson, Donald Lewis	S.C.	Johnson, Paul Forerty	Ill.
B.Ch.E. 1947, Purdue University		Johnson, Paul John	D.C.
Johnson, Dorothy Lee	D.C.	Johnson, Peter Herbert	
Johnson, Douglas Harold	Iowa	A.B. 1948, The George Washington	
Johnson, Douglas Richard	D.C.	University	
Johnson, Elise Hill	Va.	Johnson, Ray Marshall	N.Y.
Johnson, Elma Elvera	D.C.	Johnson, Richard Carl	D.C.
Johnson, Elsie Mildred	Pa.	Johnson, Robert Sumner	D.C.
Johnson, Elsie Nora	D.C.	Johnson, Roy Arnold	Minn.
B.S. 1936, Wilson Teachers College		Johnson, Ruth Theodora	D.C.
Johnson, Eva M.	Md.	Johnson, Sybil Jean	
Johnson, Everett Carl	Va.	B.S. 1946, Wilson Teachers College	D.C.
Johnson, Floyd Raymond	Wis.	Johnson, Theodore Robert	Conn.
Johnson, Frances Ashlin	D.C.	Johnson, Victor Eric	D.C.
A.B. 1937, A.M. 1939, The George		Johnson, Victor Herbert	D.C.
Washington University		Johnson, Virginia Mildred	Md.
Johnson, Frank Tracy	Md.	Johnson, Warren Louis	D.C.
Johnson, Harly Greene		Johnson, Wilda Elaine	Pa.
Johnson, Helen L.	Nebr.	Johnson, William Bowman	D.C.
Johnson, Henry Edwin	D.C.	Johnson, William Horace	D.C.
Johnson, Howard Hamilton, Jr.	D.C.	Johnson, Allen Knight	Va.
A.B. 1948, The George Washington		Johnson, Doris Jean	D.C.
University		Johnson, Marjorie Anne	D.C.
Johnson, Howard Odia	Va.	Johnson, Milton Kessler	Va.
B.S. in Ed. 1934, State Teachers		Johnson, Richard Charles	Va.
College, Eau Claire, Wis.		Johnstone, James Bruce	Mich.
A.M. 1948, The George Washington		Johnstone, James Douglas	D.C.
University		Johnstone, James Taylor	Va.
Johnson, Hugh Charles	Va.	Johnstone, Janice Bronson	Calif.
Johnson, James Anthony	Wis.	Johnstone, William Henry	Mich.
Johnson, James Coombs	Va.	Joiner, Osceola Coffield	Va.
Johnson, James Cyril	Mass.	B.S. 1940, State Teachers College,	
B.S. 1939, Holy Cross, College of the		Florence, Ala.	
Johnson, James Ernest	Ky.	Johnson, Marvin Arnold	Va.
B.S. 1948, Murray State Teachers		Jones, Ailsa Grierson	N.J.
College, Ky.		Jones, Allen Hughes	Md.
Johnson, James M.	D.C.	Jones, Benjamin Perry, Jr.	N.C.
Johnson, James Monroe	Wis.	Jones, Calvin Clark	D.C.
Johnson, James Myrover	D.C.	Jones, Carl Neuhausen	Va.
Johnson, James Walter	D.C.	A.B. 1937, University of Oregon	

Students Registered

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Jones, Carlton Benton B.S. 1933, United States Naval Academy	Calif.	Jones, Theodore William A.B. 1947, Western Reserve College	Ohio
Jones, Charles Clifford	Ark.	Jones, Virginia Walton A.B. 1944, The George Washington University	Va.
Jones, Christine L.	Va.	Jones, Walter Warren	Ky.
Jones, Claggett Aloysius	D.C.	Jones, William McPheeters B.S. 1929, The Citadel	Va.
Jones, Compton	D.C.	Jongbloet, Louis A.B. 1932, Villanova College	D.C.
Jones, Cullen Bryant A.B. 1948, The George Washington University	Tex.	A.M. 1934, Duke University	
Jones, Darrell Lloyd	Va.	LL.B. 1947, The George Washington University	
Jones, David John	D.C.	Jonson, Carl Egerton	Va.
Jones, Donald	D.C.	Jordan, Allan William	Va.
Jones, Doris Jeanne	Ga.	Jordan, George Sanford	D.C.
Jones, Dorothy		Jordan, George William	Va.
A.B. 1946, University of Miami	Md.	Jordan, Rena Claire	Miss.
Jones, Edmund Charles	D.C.	Jordan, Robert Francis	D.C.
Jones, Emerson Richard	D.C.	Jorgenson, James Lewis	Va.
Jones, Estill Boen	N.C.	Jorgenson, Kristina	D.C.
A.B. 1941, Berea College	Tex.	Josephson, Gilbert C.	Md.
Jones, Everitt Craig, Jr.	D.C.	Joy, Helen Maxine	Va.
Jones, Frank Pierce, Jr.	N.J.	Juarez, Joe Angel	Tex.
Jones, Frank Smith	D.C.	Jubien, Walter Louis	D.C.
Jones, Gordon Welch	D.C.	Judd, Dean Barritt	Md.
Jones, Gracy Gordon	Va.	Judson, Harriet Babcock	D.C.
Jones, Harold Llewellyn	Mo.	Judy, Deborah Nielsen	D.C.
Jones, Harriet Ann	Va.	B.S. 1946, Wilson Teachers College	
Jones, Harry Clay		Judy, Martin Conner	D.C.
Jones, Harry Lee, Jr.	Va.	A.B. 1946, Shepherd College	
Jones, Helen Betchley		Iuengst, George William	Ohio
B.S. 1932, Syracuse University		Julian, Archie Julian	Va.
Jones, Helen Stuart	Ga.	B.S. 1942, United States Naval Academy	
Jones, Mary Washington College	D.C.	Julien, Carl Alden	Ore.
Jones, Hubert Glenn	Okl.	B.S. 1945, University of Washington	
Jones, Ira Lee		M.S. 1947, University of Notre Dame	
Jones, Jack Clayton	D.C.	Julin, Joseph Richard	Ill.
B.Ch.E. 1939, Oklahoma Agricultural and Mechanical College	D.C.	Julisson, Mary Rose	D.C.
Jones, James Absalom	Tenn.	Julius, Richard Friedli	D.C.
Jones, James Frederick	W.Va.	Juncal, Raymond Wright	D.C.
Jones, James Wheeler	Ark.	Jung, Lucile Margaret	Fla.
Jones, John Link	D.C.	Jungblut, Edward Wilmont	N.J.
Jones, John Norvill	Tex.	Jungblut, Helen Odella	N.J.
Jones, John Raymond		Jungen, Leo John	Iowa
Jones, Katy Mae		Junker, Francis Joseph	D.C.
B.S. 1933, Stephen F. Austin State College		Junker, Norman Amos	D.C.
M.S. in Ed. 1946, Southern Methodist University		Jurash, Peter Paul	D.C.
Jones, Margaret Evelyn	N.Y.	Juster, Calvin Cecil	D.C.
Jones, Merriam Arthur	Va.	Justman, Simon	N.Y.
A.B. 1933, University of North Dakota		B.S. 1939, College of the City of New York	
Jones, Morton David	Nebr.	Jylkka, Edward Walter	Mass.
Jones, Murray Oneil	Mo.		
Jones, Natalie G.	D.C.	Kaczmar, William K	Pa.
Jones, Nathan Eugene	Va.	Kadala, Roger Henry	D.C.
Jones, Nelson Reide	Va.	B.S. in C.E. 1949, Catholic University of America	
Jones, Raphael Semmes	D.C.	Kaden, Rita	N.J.
Jones, Richard Nixon	Pa.	Kadri, Mohamed Said	Egypt
Jones, Robert Franks	N.J.	A.B. 1929, Fonadi University, Cairo, Egypt	
Jones, Robert Howard	Va.	Kaffenberger, William Michael	Ill.
Jones, Robert Hudson	Va.	Kahler, Lois Ann	Md.
B.S. 1929, University of Missouri		Kahn, Bernice	Mass.
M.S. 1933, Union College		Kahn, Cathleen Louise	N.Y.
Jones, Robert John	Va.	Kahn, Elizabeth	N.Y.
Jones, Robert Paul	D.C.	Kahn, Evans	N.Y.
Jones, Russell Burton	Tex.	A.B. 1932, Yale University	
Jones, Ruth Bowman	D.C.	Kahn, Fritz Reiner	Md.
Jones, Ruth Elsi	D.C.		
A.B. 1940, Baylor University			
Jones, Shirley Marie	Va.		
A.B. 1948, Madison College			

Kahn, Kalvin	Pa.	Kaplan, Louis Charles	D.C.
A.B. 1948, University of Pennsylvania		A.B. 1934, Yale University	
Kahn, Leon	Va.	LL.B. 1945, LL.M. 1948, Georgetown University	N.Y.
A.B. 1946, LL.B. 1948, The George Washington University		Kaplan, Nathan	
Kahn, Myer Bartel	Pa.	B.S. 1939, College of the City of New York	D.C.
B.S. 1938, University of Scranton		Kappler, Charles Theodore	
Kaiser, Anna Louise	Va.	A.B. 1942, Yale University	D.C.
Kaiser, Donald Fredrick	Md.	Kapsianos, William George	N.J.
A.B. 1947, North Texas State Teachers College		Kapuscinski, Wallace John	D.C.
Kaiser, Stanley Mortimer	D.C.	Karadimus, Peter Spiros	D.C.
Kaiser, Stuart Berwin	D.C.	Karagiorgos, Nicholas Demetrios	D.C.
A.B. 1918, Harvard University		Karayianis, Konstantinos	D.C.
Kait, Harry Carl	N.J.	Karazikas, Eleni Pericles	Va.
B.S. 1928, Temple University		Karbelius, Gudrun	Mass.
LL.B. 1938, University of Newark		Karczmarczyk, Edward John	D.C.
Kaitz, Hyman Benjamin	Mass.	Kardy, Leonard Thomas	N.Y.
A.B. 1942, The George Washington University		Kardy, Helen E.	Neb.
Kakalec, John	Pa.	Karel, Elaine Marie	D.C.
Kalavritinos, John Christopher	D.C.	Karelis, George Andrew	N.J.
Kalb, Vernon Fredric	Ky.	Karibjanian, France Amelie	
B.S. in E.E. 1947, University of Kentucky		A.B. 1941, New Jersey State Teachers College, Montclair	D.C.
Kalenik, Frank Albert	N.Y.	Karibseanian, George J.	N.Y.
Kalfus, Ira	N.J.	Karlin, Jack Irwin	
Kalicka, Howard Lewis	D.C.	A.B. 1941, The George Washington University	D.C.
Kalin, Gloria Nancy	Mass.	Karmazin, Theodora Audrey	D.C.
Kallina, Beatrice Josephine	N.Y.	Karousatos, Fotis Nicholas	D.C.
Kallis, Selma Gottlieb	Ill.	Karp, Jeanette	D.C.
A.B. 1922, A.M. 1924, Ph.D. 1927, University of Kansas		Karp, Merle Eleanor	N.Y.
Kallman, Beatrice	N.Y.	Karpas, Herbert Robert	D.C.
B.S. 1948, The George Washington University		Karpinos, Bernard D.	
Kallmyer, Roy Leslie	Md.	Ph.D. 1936, University of Iowa	D.C.
Kalman, Benjamin	Md.	Karr, Lyman Wallace	Calif.
Kalmans, Lorraine	D.C.	Karr, Sylvia Queenberry	Ind.
B.S. 1941, Wilson Teachers College		Karsell, Flora Hartley	
Kalter, Arthur Martin	N.J.	A.B. 1941, Indiana University	Fla.
Kalvin, Paul Craig	D.C.	Karsted, Jessie Walton	Va.
A.B. 1948, The George Washington University		Karstens, Ruth Flora	Pa.
Kamban, Sibil	Iceland	Kaschak, John Michael	N.Y.
Kamenoto, Fred Isamy	Hawaii	Kaskell, Ralph L., Jr.	
Kamen, Henry Theodore	Md.	LL.B. 1936, Fordham University	D.C.
Kamikawa, Juichi	N.J.	Kaslow, Herbert	D.C.
Kamm, Arthur Thorpe	D.C.	Kaspar, Henry Nathan	N.J.
A.B. 1947, American University		Kasprisky, Laura Joan	N.Y.
Kamp, Doris Elizabeth	Va.	Kassoff, Arthur Irving	
Kan, Perry Harlan	Va.	A.B. 1946, The George Washington University	N.Y.
Kananack, Barbara Audrey	N.Y.	Kates, Raymond Charles	D.C.
Kane, Daniel Raymond	Mass.	Kath, Lloyd Louis	N.Y.
Kane, Frank Michael	Pa.	Kator, Irving	
Kane, Paul Joseph	Ind.	A.B. 1941, University of Michigan	N.J.
Kaneko, Arthur Masaaki	Calif.	Katrishen, William	
Kaneshiro, Keith K.	Va.	B.S. 1948, Mississippi Southern College	D.C.
Kangas, Jorma Jack	Minn.	Katrivanos, James	N.Y.
Kanline, John Robert	Va.	Katz, Aaron	
Kannenber, Myron Hollis	Minn.	B.B.A. 1941, M.S. 1947, College of the City of New York	D.C.
Kantor, Sidney	N.Y.	Katz, Bernard Solomon	Md.
A.B. 1947, The George Washington University		A.B. 1948, University of Maryland	N.Y.
Kantrowitz, Daniel George	D.C.	Katz, Gerald I.	
Kantrowitz, Gerald	Conn.	Katz, Joseph P.	
Kaplan, Bertram W.	N.Y.	B.B.A. 1939, College of the City of New York	
Kaplan, George	D.C.	J.D. 1948, The George Washington University	D.C.
Kaplan, Harry	Ill.	Katz, Julius	N.Y.
A.B. 1948, The George Washington University		Katz, Julius L.	Del.
		Katz, Leon	Tex.
		Katz, Morton Harry	

Katz, Murray B.Ch.E. 1947, College of the City of New York	N.Y.	Keasling, Harold Charles, Jr.	D.C.
Katz, Richard Gordon	D.C.	Keeter, Charles Pace	D.C.
Katz, Sara Levit B.S. in Ed. 1939, University of Pennsylvania	D.C.	Keeter, Daniel Leavy	D.C.
Katzman, Herman Julius	N.Y.	Keil, Hortense Judith B.S. 1939, The George Washington University	Kans.
Kauffman, Shirley Louise	Va.	Keister, Richard Edwin III	D.C.
Kaufman, Bernard	N.Y.	Keith, Deane Ellington B.S. 1943, University of Maryland	Va.
Kaufman, Dorothy Willard B.S. in Ed. 1938, State Teachers College, Clarion, Pa.	Pa.	Keith, Millard	Mo.
Kaufman, Lillie	Va.	Kekich, John B.Ch.E. 1943, Ohio State University	Ohio
Kaufmann, Herman Joseph	Va.	LL.B. 1949, Georgetown University	Calif.
Kause, Charlotte Ann	D.C.	Kell, Elmer Andrew, Jr. A.B. 1929, Yale University	
Kautz, Robert Myers	Md.	A.M. 1949, University of Southern California	
Kavanagh, James Francis	D.C.	Kellam, Donald Swift, Jr.	Va.
Kavanagh, Ruth Jean	D.C.	Kellams, Marian Augusta	Md.
Kavruck, Samuel B.S. 1937, M.S. 1939, College of the City of New York	D.C.	Kellegan, Gordon Thomas	D.C.
Kay, Harold Henry	Va.	Keller, Arvilla M.	Pa.
Kay, Joseph George	D.C.	Keller, Dorothy Dippold	Pa.
Kay, Marvin Leonard	D.C.	Keller, Elizabeth Reed	Tex.
Kaye, Norman N.	Pa.	A.B. 1938, Bennington College	
Kaye, Robert Adolph	N.D.	A.M. 1943, Radcliffe College	
Kaye, Ruth	D.C.	Keller, Glenna Isabella	Ohio
A.B. 1947, Maryville College		Keller, John Christian	La.
Kayhoe, Donald Ellsworth	Md.	Keller, Louis Vincent	D.C.
A.B. 1948, The George Washington University		Keller, Morton B.Ch.E. 1946, College of the City of New York	N.Y.
Kayser, Florence Kathleen	S.D.	Keller, Phillips Brooks	Tex.
Kayson, David	D.C.	A.B. 1947, University of Texas	
Keahey, William	D.C.	Keller, Raymond Aloysius	N.Y.
Keakin, Helen M.	Va.	Keller, Ruth Miller	D.C.
Kean, John Harper A.B. 1943, A.M. 1947, The George Washington University	D.C.	Keller, Stewart Theodore	N.Y.
Kean, Ruth Gray	D.C.	Keller, William Charles	Pa.
Kearney, John Hayward	D.C.	Keller, William Gillen	Va.
Kearney, William Robert	N.J.	Kellerman, Charles Joseph	Ohio
Kearns, Dorothy Lillian	Mass.	Kelley, Charles William	D.C.
Kearns, Lyman Coolidge	Vt.	Kelley, Eva Frances	D.C.
Kearns, Thomas Francis A.B. 1939, B.S. 1940, Columbia University	Va.	Kelley, Frank William	Mich.
Kearney, Edmonia Catherine	D.C.	Kelley, George Ridgely	Md.
Keat, James Edmund	Ill.	Kelley, James John	D.C.
Keating, William Joseph B.S. 1940, United States Naval Academy	Md.	Kelley, James Ozier	D.C.
Keder, Anthony Bernard	Pa.	Kelley, Wallace Ralph A.B. 1948, American University	D.C.
Kee, Richard Moy	D.C.	Kellison, John Ray B.S. 1941, University of Richmond	Va.
Keech, Herbert Lester B.S. 1933, Juniata College	Md.	Kellman, Sidney	Pa.
Keefe, Frances Sarah	W.Va.	Kellogg, Celina Robbins	D.C.
Keefe, Robert Francis	Mass.	Kells, Robert Durwood	Md.
Keefe, Julianna Fisher	Md.	Kelly, Catherine Burton A.B. 1939, Smith College	Md.
Keeler, George Lindbergh	Pa.	Kelly, Catherine Marie	D.C.
Keen, Joe Gibson	Tex.	Kelly, Clyde Eugene	D.C.
Keen, Owen Allen	Va.	Kelly, Daniel Francis	N.Y.
Keen, Elisabeth Ruth	N.Y.	Kelly, Edward Joseph B.S. 1939, Drexel Institute of Technology	Pa.
Keener, Barbara Childers	Fla.	Kelly, Edward Thomas	Ill.
Keeny, Spurgeon Milton, Jr. A.B. 1944, A.M. 1946, Columbia University	N.Y.	Kelly, Elisabeth Claudia B.S. 1941, Indiana State Teachers College, Pa.	Pa.
Keesey, Marjorie Pennell A.B. 1943, University of Pennsylvania	Md.	Kelly, Francis Bernard B.S. in C.E. 1927, Montana State University	N.Y.
Keesey, Truman Joseph A.B. 1934, The George Washington University	Md.	Kelly, Francis Jerome	D.C.
		Kelly, Francis Keith A.B. in Govt. 1948, The George Washington University	D.C.
		Kelly, Harry Joseph	D.C.
		Kelly, Jane Margaret	D.C.

Kelly, John Leo	Md.	Kerne, Mary Ruth	Ohio
B.S. 1947, Georgetown University		Kerr, Audrey Furr	Va.
Kelly, Kenneth Max	Kans.	Kerr, David Jay	Okla.
A.B. 1947, Municipal University of Wichita		A.B. 1947, The George Washington University	D.C.
Kelly, Laura Julia	N.C.	Kerr, Graham Stickley	D.C.
Kelly, Margaret G.	D.C.	Kerr, Horace Eskew	D.C.
Kelly, Ruth Anne	Fla.	Kerr, Lucile Minton	D.C.
Kelly, Samuel Guernsey	Ohio	Kerr, Richard Haller	W.Va.
B.S. 1934, United States Naval Academy		A.B. 1948, West Virginia University	D.C.
Kelly, William Richard	Ohio	Kerr, Roger Theodore	D.C.
Kelser, George Archibald, Jr.	Md.	Kerr, Suzanne Gilfillan	N.C.
B.S. 1946, Harvard University		Kerr, Thomas Moore, Jr.	
Kem, John Worth	D.C.	A.B. 1940, Lafayette College	Fla.
A.B. 1949, Princeton University		Kersey, Mary Lois	
Kemelnor, Robert Elias	N.Y.	A.B. 1926, Florida Southern College	Pa.
Kemer, Frank Conrad	Md.	Kershaw, John A.	D.C.
Kemmerly, June Dietsch	Va.	Kershenbaum, June Bernice	D.C.
Kemp, Betty June	Va.	Kerstein, Edwin H.	Va.
Kemp, Edward William	Iowa	Kerwak, Thomas John	
A.B. 1948, University of Iowa		B.S. 1940, Mansfield State Teachers College	D.C.
Kemp, John Gordon	Ga.	Kerwick, Charles Michael	D.C.
Kemp, William George	Md.	Keshishian, John Mark	D.C.
Kemper, Andrew Addison	Calif.	Keskinen, Eero John	D.C.
Kempton, Lawrence R.	D.C.	Kessel, Roy Franklin	W.Va.
B.E.E. 1940, Ohio State University		A.B. 1940, Fairmont State Teachers College, W. Va.	
Kenady, Harold William	Ill.	Kessinger, Charles Daniel	La.
Kendall, Frank Herbert, Jr.	Md.	Kessinger, James Bennett	La.
Kendall, Joshua Wilder	Va.	Kessler, Richard Calvin	Va.
Kendrick, Elsie Lowe	Md.	Kestner, Ivan Lee	D.C.
Kendrick, Thomas William	D.C.	Ketner, William Harry	Pa.
Kenkel, John Bonaventure	Md.	Kettles, Harry William	Ga.
Kenlan, Richard James	Va.	Kevan, Robert Andrews	Va.
Kenlon, Lewis Keith	Colo.	Keys, Thomas Edward	D.C.
Kennedy, Arthur Wallace	N.J.	Keys, Joseph Paul	Va.
Kennedy, Claire Alvin	D.C.	Keys, Norah Gordon	Va.
Kennedy, James Jarvis	N.J.	Keys, Zella Cox	Ohio
Kennedy, James Joseph	D.C.	Keyser, Encil Glen	D.C.
Kennedy, Joseph Bernard, Jr.	Va.	Keyser, George Herbert	Md.
A.B. 1947, The George Washington University		Keyser, John Joseph	Va.
Kennedy, Mary Loretta	D.C.	Keyser, Madeline Leavell	India
Kennedy, Oliver	D.C.	Khan, Mohammad Karanatulla	Calif.
Kennedy, Robert Joseph	D.C.	Khushigian, Angel	Colo.
Ph.B. 1945, University of Wisconsin		Kibble, Blanche Irene	S.D.
Kennelly, Joseph Geraro	N.Y.	Kibler, Godfrey Lawrence	
Kenner, Jack Linwood	Va.	A.B. 1933, A.M. 1944, The George Washington University	D.C.
LL.B. 1941, University of Louisville		Kibler, Milton Andrew	D.C.
Kenney, John Henry	Pa.	Kiczales, Adolphe Charles	Va.
Kenney, Katherine Jane	Md.	Kidd, Edward Stanley	Md.
B.S. 1940, University of Maryland		Kidd, Isaac Campbell	
Kent, Arthur Peter	Va.	B.S. 1941, United States Naval Academy	Va.
B.S. 1941, The George Washington University		Kidwell, Carroll Walton	Va.
Kent, Charles James, Jr.	Va.	Kidwell, Edgar Russell	Fla.
Kent, Jack Howard	Fla.	Kidwell, Robert Riffe	Va.
Kent, Perrin Aloysius	Mo.	Kidwell, Stanley Slack, Jr.	Iowa
A.B. 1941, The George Washington University		Kieler, Carl Joseph	D.C.
Kent, Stephen Garland, Jr.	Va.	Kientz, Ernest Joseph	Va.
Kenyon, Nathaniel Colver	Okla.	Kier, William Ralph	
Kephart, Calva	Va.	B.S. 1940, State Teachers College, Indiana, Pa.	D.C.
Kerjakos, Van Angello	D.C.	Kiernan, Jean Camille	D.C.
Keriah, Barton	D.C.	Kiernan, Robert James	Va.
Kerkhof, Jerome Nicholas	Wis.	Kiger, John Jacob, Jr.	N.Y.
Kern, Jeanette Geschickter	D.C.	Kilburne, Richard Francis	
A.B. 1912, The George Washington University		A.B. 1948, The George Washington University	Va.
Kern, Temple Christine	Va.	Kilby, Katherine Killen	D.C.
Kernan, Charles Edward	D.C.	A.B. 1927, Trinity College	
Kernan, Byron LeRoy	Mo.	Kilby, Thomas Curran	
Kerna, Bobbie Freeman	Va.		

Kildea, Jack Harvey	Md.	King, Reta Marie	Pa.
Kilduff, Malcolm MacGregor	Va.	A.B. 1935, West Virginia Wesleyan College	
Kilduff, Timothy Joseph	Md.	King, Romaine Fogle	Del.
Kilgore, Joseph Edward	Nebr.	B.S. 1940, Mansfield State Teachers College	
B.S. in B.A. 1934, University of Nebraska		King, Rufus Gunn, Jr.	D.C.
Killea, William D.	N.Y.	A.B. 1938, Princeton University	
A.B. 1941, University of Kentucky		LL.B. 1943, Yale University	
Killian, Marcella Mary	D.C.	King, Samuel Howell	S.C.
Killian, Rosemary	Calif.	A.B. 1946, Lincoln Memorial University	
Kilpatrick, John Taylor	Okla.	A.M. 1947, University of New Mexico	
B.S. 1945, University of Oklahoma		Kingsbury, James Calvin	D.C.
Kim, Grace M.	Hawaii	Kingsland, Daniel, Jr.	N.Y.
Kimball, Everett	D.C.	B.S. in E.E. 1944, Union College	
Kimball, Orrin Belvin	N.C.	Kingsley, Joseph T., Jr.	Fla.
Kimball, Robert Elwood	Md.	B.S. 1939, United States Military Academy	
B.S. 1939, Johns Hopkins University		Kinney, David Bowen	Va.
M.S. 1948, Massachusetts Institute of Technology		A.B. 1943, Alma College	
Kimche, Aaron	D.C.	Kinsel, Alan Edson	Va.
Kimche, Estelle	D.C.	A.B. 1948, The George Washington University	
Kimmel, Golder Norton	D.C.	Kinsel, James Nolan	D.C.
Kimmel, Vivyan Mary	D.C.	B.S. 1943, University of Maryland	
Kinberg, Aaron William	D.C.	Kinsel, Joan Ruth	D.C.
Kincaid, Frank Christopher, Jr.	Ark.	Kinsman, Anne Moore	Md.
Kincheloe, Esther Marie	Va.	Kinsman, Robert Gordon	Md.
A.B. 1914, The George Washington University		Kintsfather, David Peter	Va.
Kinderman, Eugene John	Ill.	Kintz, Robert Ambrose	Md.
B.S. 1931, University of Illinois		Kintz, Ruth Bagley	D.C.
Kine, A. C.	D.C.	Kinzer, James Brooks	Pa.
B.S. 1948, Murray State Teachers College, Ky		B.S. 1948, Pennsylvania State College	
King, Donald Kyle	D.C.	Kip, Ruloff Frederick	N.J.
A.B. 1948, The George Washington University		B.S. 1943, Princeton University	
King, Eleanor Woodward	Va.	Kipper, Henry Haakon	N.Y.
A.B. 1934, A.M. 1939, The George Washington University		Kipps, John William	Va.
King, Elizabeth Anne	D.C.	Kiracofe, Arthur Hiram	D.C.
King, Elvina Frances	N.Y.	A.B. 1943, Franklin and Marshall College	
King, Emily Elizabeth	Pa.	A.M. 1944, Columbia University	
King, Emerson Fielding	Pa.	Kirby, Edward Francis, Jr.	Conn.
King, Ernest Lee	D.C.	Ph.B. 1917, Providence College	
King, Everett Rowland	D.C.	Kirby, Ernest Calvin	Va.
King, Francis Nelson	Md.	Kirby, Homer Hugh, Jr.	D.C.
King, Gene Paul	Pa.	Kirby, James Wardlaw	S.C.
B.S. 1947, University of Scranton		A.B. 1945, The George Washington University	
King, Glenn Richard	Md.	Kirchner, Francis Carlyle	Md.
A.B. 1948, Gettysburg College		B.S. 1948, The George Washington University	
King, Harold	Ind.	Kirchner, Nancy Carol	Md.
M.D. 1946, Yale University		Kirchner, Theodore Edmond	Va.
King, Harold Wesley	D.C.	Kirk, Charles Gilbert	D.C.
King, Harriet Stonesifer	Ill.	A.B. 1931, University of Washington	
King, Helen Delores	D.C.	Kirk, Gerald Achilles	Va.
King, James Cecil	Pa.	Kirk, John Edwin	Ohio
King, Janice Chase	Md.	Kirk, Michael James	Va.
A.B. 1910, Vassar College		Kirk, Robert Louis	Pa.
King, John Snyder	Va.	Kirkland, Robert Carey	Va.
King, John Walter, Jr.	D.C.	Kirkman, Albert Gwinn, Sr.	Md.
King, Joseph Frederick	D.C.	B.S. 1927, Virginia Polytechnic Institute	
King, Mary	D.C.	Kirkman, Caroleen	N.C.
King, Mary Elizabeth	Mass.	Kirkpatrick, Allen	D.C.
King, Mary Mazeppa	Fla.	B.S. 1943, Massachusetts Institute of Technology	
King, Mildred Cole	D.C.	LL.B. 1948, University of Virginia	
B.S. 1935, Central State College		Kirkpatrick, Bernard Joseph	Md.
King, Morton Lionel	D.C.	Kirkpatrick, Charles Albert	Md.
King, Naihau Russel	W.Va.	Kirkpatrick, Virginia Lorene	Fla.
King, Pericles	Okla.	Kirkpatrick-Hount, Lorraine F.	Md.
King, Phillip Miskell	Md.	Kirlin, Mary Elizabeth	D.C.
King, Quentin Scott	D.C.		

Kirsch, Martin Joseph	D.C.	Klopp, Raymond Arthur	D.C.
Kirschbaum, Amiel	D.C.	Klostermann, Wolfgang Ekart	D.C.
B.S. 1937, University of Maryland		Kloydahl, Gordon Jacob	Ind.
Kirshner, Joseph Martin	Del.	Klukowski, Stanley Zenon	Wis.
B.S. 1946, University of Delaware		A.B. 1948, University of Wisconsin	Ohio
Kirstein, Sidney Leonard	D.C.	Knapp, Mary Ann	Va.
Kisacky, Mary	D.C.	Knapp, Moreland Sinclair	W.Va.
Kishbaugh, Margaret Raye Avis	D.C.	Knapp, Norman	Ohio
Kiser, Tharon Marie	Ky.	A.B. 1939, Morris Harvey College	
A.B. 1948, The George Washington University		Knapp, Robert Duane, Jr.	
Kistler, Wallace Grover, Jr.	D.C.	A.B. 1948, The George Washington University	N.Y.
Kitagawa, Arthur Saburo	Calif.	Knattles, Mary Evangeline	
Kitchen, Jeffrey Coleman	D.C.	A.B. 1919, College of St. Teresa	D.C.
B.S. 1943, University of Oregon		Knight, Charles Clyde	Va.
Kitsoulis, Michael Thomas	D.C.	Knight, Merrill Donaldson	Md.
Kittle, John Lewis	Mass.	Knight, Robert Whitney	N.Y.
Kitts, Willard Frederick		Knoll, Marianne	
A.B. 1943, Amherst College	D.C.	A.B. 1946, M.S. 1947, New York University	N.Y.
Klaasse, Robert Allen	N.J.	Knoph, Herman Joseph	D.C.
Klafter, Leonard	N.Y.	Knopp, Arthur Maxwell	Va.
Klaybor, Dorothea M.	D.C.	Knott, Barbara Elizabeth	Ga.
Klapp, Gloria Marie	N.Y.	Knott, Leonard Carl	D.C.
Klapper, Howard Jerome	N.Y.	Knott, Lucille	Mass.
Klassner, Benjamin	D.C.	Knowles, Edward William	Mass.
Klavan, Hillard		Knox, George William	D.C.
B.S. 1947, Johns Hopkins University	Md.	Knox, Letitia Moore	
Klavan, Stanley	Ill.	B.S. 1943, Wilson Teachers College	D.C.
Kleber, Francis T.		Knox, Robert Armistron, Jr.	
B.S. in E.E. 1944, United States Naval Academy	Mich.	A.B. 1947, The George Washington University	La.
Klein, Frederick Nelson, Jr.	D.C.	Knox, William Christie	
Klein, George Ralph	D.C.	B.S. 1943, M.D. 1947, Louisiana State University	Pa.
Klein, Joseph Sigmund	Okla.	Koach, Joseph Lewis	Md.
Klein, Karol Dee	Va.	Koback, John Merriam	D.C.
Klein, Kenneth Eugene	N.Y.	Kober, Anna	N.Y.
Klein, Leonard Adam	N.Y.	Koberg, Allison James	D.C.
Klein, Milton	D.C.	Koch, H., Jr.	
Klein, Percy Franklyn, Jr.	Ohio	A.B. 1931, Howard University	D.C.
A.B. 1918, Park College	D.C.	Koch, Norman Leo	Iran
Klein, Robert M.	Va.	Kocharian, Edward Moses	Ill.
Klein, William Joseph	Md.	Koche, Robert Charles	D.C.
Kleinfelder, James Jesse	Va.	Koen, Frank Leslie, Jr.	D.C.
Kleinman, Alfred	Calif.	Koenig, Joseph William, Jr.	Va.
Klepak, Philip Harold		Koenig, Mary Beth	D.C.
Kley, Frank Carl, Jr.	Wis.	Koenig, William Edward	Minn.
B.S. 1948, The George Washington University		Koenigsberger, Charles	D.C.
Klieforth, Leslie Andrew	D.C.	Koepke, Milton Elwood	D.C.
A.B. 1948, University of Minnesota	Va.	Koester, Richard Eugene	D.C.
Klickel, George John	N.J.	Kohl, Francis	Wis.
Klieger, Jean Louise		Kohl, Leonard Louis	D.C.
Klieger, Walter Aaron		Kohlss, Frederick Henry	
A.B. 1948, The George Washington University	D.C.	B.S. in M.E. 1943, University of Maryland	Mass.
Elks, Raymond Riggs	Md.	Koloyian, Aredis Vahan	N.H.
Elme, Elizabeth Anne	Va.	Kokulis, Paul Nicholas	
Elme, Frederick Elmer, Jr.	D.C.	B.S. 1944, Worcester Polytechnic Institute	N.Y.
Elms, Harold Edward	N.I.	Kolano, Ernest Theophil	D.C.
B.S. 1948, American University	D.C.	Kolar, Edith	D.C.
Elme, James Frederick	Pa.	Kolar, Vera	Va.
Elme, Ralph Henry	D.C.	Kolb, Denis Frederick	Mich.
Elmgenhagen, Declan Fred	Colo.	Kolb, Karl Philip	N.Y.
Elipple, Mary Jane		Kolb, Raymond Charles	Md.
A.B. 1946, The George Washington University	Ohio	Kolb, Robert Warren	
Klitzman, Maurice H.	Md.	B.S. 1941, University of Maryland	N.Y.
B.S. in M.F. 1948, Purdue University		Kolbiornsen, John Morbeck	
Kloman, Erasmus Helm, Jr.		A.B. 1945, Harvard University	Ohio
A.B. 1943, Princeton University	N.Y.	Kolbedy, Joseph George	D.C.
A.M. 1947, Harvard University		Kolker, Beverly	D.C.
Klonowski, Bernard Peter		Kolker, Irvin	

Kollmeyer, Herman Richard	Va.	Kowan, Ethel Jean	D.C.
Kollmeyer, Paul Carroll	Va.	Kowshik, Kalindi Dinkar	D.C.
Kolodny, Joseph George	Mass.	Koyiades, Ruth Alice	N.H.
A.B. 1935, Harvard University		Kozel, Alexander	D.C.
Kolovich, Leposava	D.C.	Koziski, William	Pa.
Kolovich, Lilaua	D.C.	Kozlowski, Joseph John	Ill.
Koltovsky, Lillian Ruth	N.Y.	Kraft, Frank Joseph	Va.
Komai, Dan	D.C.	Kraft, Lester	Md.
A.B. 1938, University of California at Los Angeles		A.B. 1948, University of Maryland	
Komito, Milton Feldman	Ohio	Krake, David William	Oreg.
Komito, Renee Freiburger	Ohio	Krakov, Morton Joseph	Va.
Kon, Irena	D.C.	Kraller, John Edward	Ky.
Konhauer, Jerome	N.Y.	Kramer, Albert Charles	D.C.
Koniszewski, John Edward	D.C.	Kramer, Dorothy	Fla.
Koo, Benjamin Yee Chieh	D.C.	Kramer, Jerome Frank	Ohio
Koogle, George Grayson, Jr.	Va.	B.E.E. 1943, Ohio State University	
Koosman, William	Minn.	Kramer, Joshua	N.Y.
Koona, David Anthony	Pa.	Kramer, Marvin Lewis	Va.
Koons, Richard Moorcroft	D.C.	Kramer, Norman Clifford	N.Y.
Ph.B. 1930, Muhlenberg College		B.S. 1948, The Citadel	
Koona, Robert Aaron, Jr.	Pa.	Krasauskas, John William	D.C.
Koona, Walter Benjamin	Pa.	B.S. 1933, M.S. 1934, University of Maryland	
Kopacko, Lorraine Mae	Ohio	Krasley, Paul Albert	Pa.
Kopek, John Longin	N.Y.	Krasny, John Friedrich	D.C.
Kopek, Pauline Elizabeth	Va.	B.S. 1948, University of Detroit	
Kopfman, Thomas Vincent	D.C.	Kraus, Harriet Hill	Md.
Koplin, Allen Atlas	D.C.	Krauss, Ellin Ruth	Md.
Koplovitz, Rose	Pa.	Kravetz, Herman	Md.
Kopp, Paul Joseph	Va.	Kravetz, Rhoda	Va.
A.B. 1932, Lehigh University		Kravitz, Rose Marie	D.C.
A.M. 1933, Duke University		Krebs, Henry Charles	D.C.
Kopp, Robert	D.C.	Kreek, Louis Francis	D.C.
A.B. 1940, Brooklyn College		B.S. 1948, Massachusetts Institute of Technology	
Koppelman, Irvin Jerome	Va.	Kreftina, James Emmett	Minn.
Koren, Gerd Elise	Norway	Krehbiel, Mary Lou	Ohio
Korenblatt, Martin A.	N.Y.	A.B. 1946, The George Washington University	
Korn, Frances	D.C.	Kreimann, Walter William	S.D.
Korn, Norman	N.Y.	A.B. 1946, Dakota Wesleyan University	
Korn, Seymour	N.Y.	Kreiner, Howard William	D.C.
Kornblatt, Julius	N.Y.	B.S. 1944, University of Pennsylvania	
Kornfeld, John Seiferth	D.C.	Krentzlin, Julie Anita	D.C.
Kornhauser, Alvin	D.C.	Kressfield, Florence	N.Y.
Korol, Alexander Gregory	Hawaii	A.B. 1948, The George Washington University	
Korostoff, Bernard	N.Y.	Kressley, Clement	Md.
Kort, Reuben	N.Y.	Krey, Isabella Brown	D.C.
Korte, Ernest Joseph	Va.	A.B. 1926, A.M. 1934, The George Washington University	
Kortman, Cecil M.	Tex.	Krichmar, Robert Lawrence	Va.
Koski, Leo Gregory	Wis.	A.B. 1943, Boston University	
Kosmerl, Alice Frances	Ohio	Krieger, Bertha C.	D.C.
A.B. 1947, Seton Hill College		Krieger, Henry Norbert	Ill.
A.M. 1948, Ohio State University		A.B. 1948, Stanford University	
Koster, Teresa Mary	D.C.	Kriepe, Lola Dolores	D.C.
Kostik, Peter James	Ohio	Krikorian, Garo	N.J.
Kotka, Fred Paul	Va.	Kriner, George Marion	D.C.
B.S. in M.E. 1942, Rhode Island State College		Krist, Fred George	N.Y.
Koutsaros, Harry George	Pa.	Kritt, Barbara Tanya	D.C.
Koustenis, Harry George	Ohio	Krivoy, William Aaron	D.C.
Koustenis, James	D.C.	B.S. 1948, Georgetown University	
Koutoulakos, Louis	Va.	Krogfoss, Oswald Karl	Minn.
Koutsandreas, Peter Dionysius	D.C.	B.S. 1935, University of Minnesota	
B.C.E. 1948, The George Washington University		Kromer, Charles Dalton	D.C.
Koutsavles, Alexander	N.Y.	Kroner, Lawrence Roy	Ill.
Kouzel, Howard	D.C.	Kronfeld, Gerald Wolfe	Del.
Kouzes, Tom	Va.	Kronig, Harry Donald	Pa.
Koval, John Joseph	D.C.	B.S. 1947, Temple University	
Kovaleski, Jeanne J.	D.C.	Kronstadt, Nathan	N.Y.
Kover, Allan N.	N.Y.		
B.S. 1943, College of the City of New York			
Kowalski, Fred Herman	Conn.		

Krubel, Frederick John B.S. in M.E. 1943, University of Illinois		Ill.	Kurtz, Philip Elledge B.S. 1942, University of Maryland	Va.
Kruczyak, Margaret E. Krucoff, Darwin	Pa. D.C.		Kyllonen, Allen William	D.C. N.H.
Krueger, Arthur Frank B.S. 1947, University of Chicago	D.C.		Kyrasakis, John	Md. Md.
Krueger, John Richard A.B. 1948, The George Washington University	D.C.		Kyziazis, Chris William	Md.
Kruger, George	D.C.		Kyziazis, Peter William	Md.
Krupotich, Edward B.S. 1944, University of Colorado	D.C.		Kytle, Stuart Frederick A.B. 1948, The George Washington University	Md. Md.
Krupovich, Helen Marie	D.C.		Kush, William Frederick, Jr.	Hawaii
Krusell, Elden Werner	D.C.		Kushman, Hollis Kent	D.C.
Krutter, Eva	Mass.		Kushman, Howard Bert	Burma
Kuchler, Ralph Rudolph A.B. 1948, The George Washington University	Utah		Kusumoto, Earl Hsiushi	D.C.
Kucirek, Ernest Frank	Nebr.		Kutschko, Emerick, Jr.	D.C.
Kudatsky, Nathan	N.Y.		Kutz, Judith	D.C.
Kuder, Gordon Fred	N.D.		Kyaw, Aung Myat A.B. 1946, Rangoon University	Va. D.C.
Kulikak, Genevieve	Mich.		Kyer, Howard Lee	
Kutash, Morton	N.Y.		Kyle, Hugh Campbell, Jr.	
Kugel, Kenneth A.B. 1947, Reed College A.M. 1948, University of Michigan	D.C.		L	
Kuzelmass, Solomon	N.Y.		LaBarr, Robert Victor	Okl.
Kuhfeld, Olive Leone	N.D.		Labissoniere, George Robert LL.B. 1948, The George Washington University	D.C.
Kuhl, Earl Henry	Iowa		Labofash, Paulina Lillian	Mich.
Kuhn, Mark Joseph	D.C.		Labolle, Victor	Pa.
Kukoski, Leonard K. A.B. 1947, The George Washington University	Mich.		A.B. 1947, Wayne University	Tenn.
Kulda, Edward Joseph	Md.		Labowitz, Shirley Pauline	Tenn.
Kuldell, Clarence Elliott	D.C.		Labuzan, Dorothy Marie	D.C.
Kulich, Matthew William	Pa.		Lacey, Hubert Nathaniel	Va.
Kull, Hale Margaret	N.Y.		Lacey, Kenneth King	N.Y.
Kulla, Lincoln Acker	D.C.		Lacey, Maurice Winters	Md.
Kulp, John Wesley	D.C.		Lacey, Patricia Mae	N.C.
Kulp, Russell Nyce, Sr.	Md.		Lachman, Erwin John B.S. 1947, University of Pennsylvania	
Kulsrud, Eyvino Lorang	Md.		Lachman, Jerome Edwin A.B. 1939, State Teachers College	
Kumagai, Rikio B.S. 1948, University of Michigan	Md.		Lachman, Lenora Greta	
Kump, Mary Gamble	W Va.		Lackey, Edith Virginia B.S. 1937, Appalachian State Teachers College	Va. Pa.
Kune, Bernard Jack	D.C.		Lackey, Joseph Henry	D.C.
Kuniansky, Adele A.B. in Ed. 1936, University of Georgia	D.C.		Lackey, Mary Dexter	N.J.
Kunaak, Stephan William A.B. 1943, The George Washington University	Pa.		Lacombe, Charles H.	D.C.
Kunz, George Theodore	Cuba		Lacovara, Nicholas John	Tenn.
Kunz, Karl Michael Ph.B. 1941, Providence College LL.B. 1947, Georgetown University	R.I.		Lacovia, Mary Anne Lacy, Margaret Graham A.B. 1917, Randolph-Macon Woman's College	
Kuokka, Hubard Dan B.S. 1939, University of Oregon	Wash.		A.M. 1939, Vanderbilt University	Kent.
Kuper, Frederick Ryland	Va.		Lacy, William Merrill	D.C.
Kupiel, Chester Francis	Va.		Ladd, John Morris	Ind.
Kupka, Anthony B.S. 1930, Ithaca College	Md.		Ladd, Mary Leo	D.C.
Kupperman, Morton B.S. 1938, College of the City of New York	N.Y.		Ladeira, Luiz Gonzaga	D.C.
Kupres, Anne Joan	Md.		Lademan, Joseph	D.C.
Kurek, Jean Wanda LL.B. 1943, Mount Union College	D.C.		Ladisky, Bernice Edythe	Va.
Kurach, Robert Francis	D.C.		Ladue, Dorothy Eunice	Va.
Kurth, William Herman A.B. 1941, University of Virginia	D.C.		Ladue, Edith M.	La.
Kurtz, Doris Maxine	Va.		Lafaye, Wilbur Paul B.S.E. 1943, University of Michigan	Dal.
Kurtz, Stanley Morton	D.C.		Lafferty, Frank Hurons	Calif.
			Laffey, Cyril Joseph	D.C.
			Laffin, Edward John	Va.
			Laffin, Mark William	Minn.
			Lagarde, William Joseph	N.Y.
			Lagather, Robert Bosco	D.C.
			Lagerquist, Walter Woodruff	
			Lagamarcino, Marian Allison A.B. 1943, Smith College	

Lagomarcino, Paul Donald LL.B. 1948, University of Iowa	Ill.	Landen, Richard Magnus	N.Y.
Lagrone, Columbus Lee	Md.	Landers, Elmer Albert	N.Y.
LaGuardia, Alfred Attilio	D.C.	Landis, Glen Austin	Va.
LaHatte, James Albert, Jr. B.S. in E.E. 1943, Georgia School of Technology	Md.	Landis, Joseph Winney	D.C.
LaHayne, Robert Edward	D.C.	Landis, Patricia Louise	D.C.
Lahmar, Audrey Norma A.B. 1948, Sweet Briar College	Ill.	Landis, Peter Andrew, Jr.	N.Y.
Lahti, Carl Robert	Mich.	Landis, Samuel Edgar	Pa.
Laine, Hugh Carter	Va.	Landis, Theodore Franklin	W.Va.
Laine, Roland Oscar	Va.	Landorf, Floyd Robert	N.Y.
Lainof, Milton	N.J.	Landreth, Clinton Laster	S.D.
Lainof, Robert Ivan B.S. 1939, North Carolina State College	Va.	Landsiedel, Erna Elfrieda	D.C.
Lair, Harold Patrick	Md.	A.B. 1940, State University of Iowa	Fla.
Lajoie, Aldore Simon	D.C.	Landsman, Helen Ruth	N.Y.
A.B. 1948, University of Maine		Landsman, Louis	Va.
LaLande, Allen Lee	Tex.	Landsman, Robert Samuel	D.C.
Lallas, Charles Peter	D.C.	Lane, Archibald	D.C.
Lally, Paul Thomas	Va.	Lane, Carl K.	Tenn.
Lalor, David Paul	Va.	Lane, Dalton Creed A.B. 1947, Berea College	D.C.
Lalos, Virginia Beula	D.C.	Lane, Elizabeth Walker	D.C.
LaMacchia, Frank R. A.B. 1945, The George Washington University	N.Y.	Lane, Francis Edward	Fla.
Lamar, Harold Thomas	Ill.	Lane, John Goethe, Jr.	D.C.
Lamar, Mary Beth B.S. 1940, University of Nevada	D.C.	Lane, John McAllister B.C.E. 1947, The George Washington University	Maine
LaMaster, Virginia Ann	D.C.	Lane, Mark Harold A.B. 1948, University of Maine	Va.
Lamb, Alice Ailleen	N.D.	Lane, Munson Harmon, Jr. B.S. 1948, Emory and Henry College	Va.
Lamb, Ralph	Ill.	Lane, Rosemary Jeannette	Pa.
Lamb, Rodney John	Calif.	Lane, Wesley Edward	Colo.
Lambert, Dean Warren A.B. 1948, Berea College	Ky.	Laner, Frances J.	D.C.
Lambert, Francis Lincoln	D.C.	Laney, Arthur R., Jr. A.B. 1947, The George Washington University	Utah
Lambert, Margaret Forfar Ph.B. 1943, Northwestern University	Ill.	Laney, Culbert B.S. 1941, Utah State Agricultural College	Fla.
Lambert, Margaret Lucille	Va.	Lang, Edward Alexander B.S. in B.A. 1943, University of Florida	D.C.
Lambert, Peter Baldwin	D.C.	Lang, Eleanor A.B. 1927, University of Illinois	Pa.
Lambert, Robert Lyman	D.C.	Lang, Elinor B.S. 1948, New York University	S.D.
Lambert, Robert Warner A.B. 1942, DePauw University	Va.	Lang, John Carl A.B. 1936, State Teachers College, Valley City, N. D.	Ill.
Lambert, Ruth Garner	N.H.	Lang, John Christian	Md.
Lamberton, Alfred James A.B. 1931, University of New Hampshire	Va.	Langdon, Russell Austin	Va.
Lambrecht, Peter Donald A.B. 1946, University of Wisconsin	Fla.	Lange, Ruth Eleanor	D.C.
Lambros, Philip Russell A.B. 1948, The George Washington University	Miss.	Langerman, Elaine Mildred	D.C.
Lamkin, James Cecil, Jr. B.S. 1948, The George Washington University	D.C.	Langhead, Mary Dawson A.B. 1947, Southwestern University	Tex.
LaMotte, Peter	Md.	Langholz, Ernest Frederick A.B. 1948, The George Washington University	N.Y.
Lamphiear, Donald E.	D.C.	Langley, Harold David	Mass.
Lancaster, Betty Maxine B.S. 1948, University of Maryland	Fla.	Lango, Alphonse James	N.Y.
Lancaster, Blake Paul	D.C.	Langer, George Edward A.B. 1948, Union College	N.Y.
Lancaster, Georgina Carmen A.B. 1948, The George Washington University	Miss.	Lanesam, Edwin	N.Y.
Lancaster, R. Kent B.S. 1948, Mississippi State College	D.C.	Lanier, William Forrest	Pa.
Lancaster, Robert E., Jr.	Md.	Lanosz, Michael	D.C.
Lancaster, Valarie Ann A.B. 1947, Trinity College	D.C.	Lansdale, Mary Louise	Mo.
Lanckton, Myrtle Ann	Va.	Lansine, Edward Watson	D.C.
Landau, Morton A.B. 1947, The George Washington University		Lantz, Andrew Lawrence, Jr. A.B. 1948, The George Washington University	D.C.
		Lapana, Panatotis	D.C.
		LaPerche, Jacques Benonie	Ga.
		Lapham, George Sealy	N.Y.
		Lapin, Earl Michel	

Lapp, Hazel Williams B.S. 1914, Ohio State University	Md.	Lavine, Irvin Arthur A.B. 1947, Catholic University of America	Va.
M.S. 1940, University of Chicago			
Lappin, John Eldridge	D.C.	Lavoie, Normand Paul	Maine
Lappin, Robinson	D.C.	Law, Arthur Gregory	D.C.
Laprade, Gertrude Cecelia	D.C.	Law, Charles Christian, Jr.	Md.
Larison, Oliver Kugler	D.C.	Law, Frank Gordon	D.C.
A.B. in Ed. 1939, The George Washington University		B.S. 1936, M.S. 1949, United States Naval Academy	
Larkin, Alfred Joseph	Va.	Lawless, William Josselyn, Jr.	Va.
B.S. 1927, Colgate University		Lawlor, Henry William	D.C.
Larkin, Maureen	D.C.	Lawlor, Patricia Mary	Wash.
Larkin, Thomas Dillard	D.C.	Lawrence, Charles Wyman	D.C.
LaRocca, Marie Barbara	Va.	Lawrence, Frank Edward	D.C.
Larrick, Benjamin Franklin	Va.	Lawrence, John Creiz	Md.
Larsen, Morris Alven	Iowa	B.S. 1930, United States Naval Academy	
Larson, Clair Merlin	Minn.	Lawrence, Lester Albright	Va.
A.B. 1948, Luther College		Lawrence, Malcolm	D.C.
Larson, Donald Eugene	Minn.	A.B. 1948, The George Washington University	
Larson, Milton Arvid	Utah	Lawrence, Norman	D.C.
Larson, Robert Edwin	N.Y.	B.S. 1910, College of the City of New York	
Larson, Verne Lyle	N.D.	Lawrence, Robert Clinton	D.C.
A.B. 1946, The George Washington University		Lawrence, Roger Lee	Ohio
Larue, Robert Emmett	D.C.	B.S. 1943, Ohio State University	
Lasche, Ernest Patricio	Va.	Lawrence, Willis Dale	Nebr.
B.S. 1939, United States Military Academy		Lawrentz, Rene	Ohio
Lasche, Georgia Baltzell	Fla.	Lawrey, George Alan	D.C.
Lasco, John	Pa.	Lawrie, Dorothy Jean	D.C.
Lash, Robert Frederick	Ill.	Lawrie, Joe Stallings	Fla.
Lasher, Clinton	N.Y.	A.B. 1937, Louisiana State University	
Lasher, Jay Donald	Pa.	Lawrie, Ruth Myrtle	Md.
Lashley, Glenn Thomas	Okla.	Laws, Jack O'Brien	Idaho
Laskey, Henry A.	D.C.	Lawson, Adrian Lee	Va.
Laskey, Raymond	D.C.	Lawson, Alice Joyce	N.Y.
Lassa, Leonard Lawrence	Md.	Lawson, Howard Birger	Va.
Laster, Carl Abram	Ark.	Lawson, Jan Lloyd	Va.
B.S. 1935, United States Naval Academy		Lawson, John Irvin	Mo.
Lastfogel, Vera Lee	D.C.	Lay, Kenneth Swift	N.Y.
Latarewicz, Charles Frank	D.C.	Layhee, Harold Franklin	
Latham, Leslie Wade	Va.	A.B. 1948, The George Washington University	
A.B. 1937, Miami University		Layne, Ennis Cecil, Jr.	Va.
A.M. 1939, University of Cincinnati		Layne, Jack Martin	D.C.
Lathrop, Clifford Raymond	Va.	Layne, Virginia Ellen	D.C.
A.B. 1938, Western Maryland College		Layos, Barbara Cove	Va.
Lathrop, Richard Poyneer	Va.	Layos, Joseph Kenneth	Pa.
Latino, Jennie Mary	Mass.	Layton, Cleo Franklin	Kans.
LaTorre, Richard Robert	N.Y.	Layton, Walter Adonis	D.C.
Latt, Benjamin	R.I.	Lazas, Donald Joseph	Minn.
A.B. 1948, Brown University		Leach, Daniel Joshua	
Latta, Burr	Va.	B.S. 1938, University of Minnesota	
Latta, James Clay, Jr.	D.C.	M.S. 1946, Yale University	D.C.
Laubgross, Marvin	N.Y.	Leader, George Robert	
Laubinger, Frank Herbert	Md.	A.B. 1911, Pennsylvania State College	D.C.
Laubacher, Lawrence Erwin	D.C.	Lesby, William Crahan	
Lauder, Robert Bruce, Jr.	N.Y.	A.B. 1944, University of Pennsylvania	D.C.
Laughlin, James Roberts	D.C.	Leaptrot, Betty Jane	D.C.
Laughlin, John Gregory, Jr.	D.C.	Lear, James Richard	D.C.
Laughmiller, Roy William, Jr.	Md.	Lear, Jeanne Eleanor	
A.B. 1947, Maryville College		A.B. 1947, American University	D.C.
Laurence, Edwin Anthony	Pa.	Lear, Joyce Elizabeth	Ark.
Lauritsen, Carl Richard	Oreg.	Leary, James Edward	
A.B. 1939, LL.B. 1941, University of Nebraska		A.B. 1948, Duke University	N.Y.
Lauter, Florence Schott	D.C.	Leary, Jay Phelps	
B.S. 1917, Northwestern University		B.M.E. 1944, Brooklyn Polytechnic Institute	
M.S. 1924, University of Chicago		Leary, John Patrick	Mass.
Lauter, John William	Va.	Leary, Norma Elena	D.C.
Lavagnino, Geraldine Sinclair	D.C.	Leary, Robert George	N.Y.
Lavin, Arthur George	Va.		
Lavine, Bess Blafkin	Va.		

Leatherwood, Howard Garrett	Va.	Lefevre, Jean Elting	D.C.
Leatherwood, James H.	Ohio	A.B. 1947, The George Washington University	
Leavitt, Raymond Boomer	D.C.	Lefingwell, Thomas Cullen	Pa.
B.S. 1923, United States Naval Academy		Lefkowitz, Saul	N.Y.
Leavy, Horace James	N.Y.	B.S. 1940, College of the City of New York	
Leber, Walter Philip	Mo.	LeGagnoux, Yves Andre	Va.
B.S. 1940, Missouri School of Mines		Legallais, Frances Yvonne	Md.
Lebeson, Shirley Evelyn	Ill.	Leggett, James Cecil	Va.
Ph.B. 1945, University of Chicago		Legett, Mary Henley	D.C.
LeBlanc, Diana	Ohio	B.S. 1943, University of Maryland	
LeBlanc, Joseph Lenol	D.C.	Legum, Howard Isadore	Va.
Lebovitz, Carl Harry	Va.	A.B. 1943, Harvard University	
A.B. 1946, Bowdoin College		Lehman, Dorothy Elizabeth	Kans.
Lebowitz, Anne L.	Md.	A.B. 1930, Nebraska University	
Lebrecht, Richard	N.Y.	Lehman, Dorothea Wilhelmina	D.C.
Lechner, Naida Marjorie	S.D.	Lehnert, Robert Conrad	N.Y.
Leckband, Paul	Iowa	Lehtonen, Harold	Mich.
Leckie, Jack	Va.	Lei, Chih Tseng	China
B.S. 1938, Marshall College		B. of Law 1940, National Peking University	
LeClaire, Charles Homer	Mich.	Leibbrandt, Robert Clinton	Va.
A.B. 1940, Alma College		Leichter, Jerome Raymond	N.J.
M.B.A. 1942, University of Michigan		Leidinger, Joan Mary	D.C.
LeCroy, James Franklin	Va.	Leighton, Donald McCulloch	Nev.
Ledford, Harry Samuel	Tenn.	A.B. 1938, University of Nevada	
Ledford, James Curtis	D.C.	Leighton, Leocade	Va.
Ledford, Pearl	D.C.	A.B. 1939, Tufts College	
Ledoux, William Adelard	Mass.	A.M. 1943, The George Washington University	
LeDuc, Philip Sheridan	Mass.	Leighton, Nici	Va.
Lee, Alma Raines	N.C.	Leighton, Pauline Geoghegan	Nev.
A.B. 1942, East Carolina Teachers College		Leighton, Virginia Cecil	D.C.
Lee, Dorothy	D.C.	Leikari, Kenneth Arvi	N.J.
Lee, Edward Min	D.C.	Leimbach, Dorothy Gadbois	D.C.
Lee, Emil Weldon	Md.	A.B. 1945, Brown University	
B.S. 1948, Georgetown University		Leinbach, Martha Ruth	N.C.
Lee, Ethel Adeline	Wis.	Leins, Charles Olaf	N.Y.
Lee, Everard Hendrix	Va.	Leinster, Roy Luttrell	D.C.
Lee, Gilbert Stanley	D.C.	B.S. 1931, United States Military Academy	
A.B. 1947, Stanford University		Leiper, Mary Rita	Md.
Lee, Helen	D.C.	B.S. 1937, Wilson Teachers College	
Lee, Jacob F.	Fa.	Lekolitch, Alex, Jr.	N.J.
Lee, Julia McEachin	Ga.	Leliaert, Robert H.	Ind.
A.B. 1941, Oglethorpe University		Lem, Mary A.	Mich.
A.M. 1945, The George Washington University		A.B. 1946, University of Michigan	
Lee, Leroy Linwood	Md.	LeMaistre, Catherine C.	N.J.
A.B. 1948, The George Washington University		A.B. 1936, New Jersey State Teachers College	
Lee, Lily Kwai Keui	Hawaii	Lemler, Stephen Morton	Md.
Lee, Lloyd Wilson	D.C.	Lemley, Charles Raymond	D.C.
Lee, Murray Kent	Pa.	Lemley, Charles Robert	Va.
Lee, Raymond	N.Y.	Lemon, Edythe Jewel	Mich.
B.S. 1948, Pennsylvania State College		Lemon, Harvey Jackson	Tenn.
Lee, Robert	D.C.	Lemons, F. Ted	Ill.
Lee, Shiu Lam	D.C.	Lenarduzzi, David Rino	D.C.
Lee, Stanley Jerome	D.C.	A.B. 1948, The George Washington University	
Lee, Thomas	N.Y.	Leney, Herber Carlton	Okla.
Lee, William M.	Hawaii	B.S. 1928, Oklahoma Agricultural and Mechanical College	
Leech, Gladys Gertrude	D.C.	LL.B. 1934, University of Oklahoma	
Leech, Walter Murray	D.C.	Lenfesty, James Albaugh	Fla.
Leedy, Howard Massey	Va.	Lengyel, Robert Dennis	Conn.
B.S. in Ed. 1933, A.M. 1939, West Virginia University		Lennan, Alvin Brooks	Md.
Leer, James Edward	D.C.	Lennox, Mary	D.C.
Lees, Urban August	Ind.	Lentz, Walter Scott, Jr.	D.C.
B.S. 1943, University of Minnesota		Leon, Grace Veronica	N.J.
Leese, Bernard McKenzie	Md.	Leonard, Charles Richard	Tex.
Lefcourt, Edwin Russell	N.Y.	Leonard, Elfriede Frestine	D.C.
Lefer, Samuel	D.C.	LL.B. 1932, Tartu University	

Leonard, Ethel McVey	D.C.	Levinson, Irving	Ill.
Leonard, Eugene Anthony	D.C.	B.S. 1940, Central Y.M.C.A. College	
Leonard, Orel K.	D.C.	Levinson, Monroe Joseph	D.C.
Leontarakis, Kalleope Marie	D.C.	Levinson, Raymond Harold	D.C.
Lepper, Mark Hummer	Va.	Levinson, Rose Golda	D.C.
A.B. 1938, M.D. 1941, The George Washington University		Leviton, Daniel	D.C.
Lerner, Joseph Sidney	Md.	Levitov, Edith Sylvia	Va.
B.S. 1940, Wilson Teachers College		Levy, Charles Kingsley	D.C.
A.M. 1947, Columbia University		B.S. 1948, The George Washington University	
Lerner, Theodore Nathan	D.C.	Levy, Donald	Md.
LeSage, Roland Joseph	D.C.	B.S. 1947, University of Maryland	
Lesansky, Helene	D.C.	Levy, George	Mass.
A.B. 1943, University of Miami		Levy, Harry	N.J.
Leslie, Annavee Faulkner	Okla.	B.S. in M.E. 1936, New York University	
Leslie, Barbara Mason	Conn.	Levy, Henry Abraham	D.C.
Leslie, Charles Walton, Jr.	D.C.	Levy, Irvin Jack	D.C.
Leslie, Lester	Va.	Levy, Nathaniel	D.C.
Lesniak, William Walter	Va.	Lewallen, Iris Battle	Md.
Lesser, Robert George	Mass.	A.B. 1931, John B. Stetson University	
Lester, Frances Grigsby	Va.		N.Y.
B.S. 1945, Madison College		Lewis, Arnold Charles	
Lester, Robert Thomas	Md.	B.S. 1937, College of the City of New York	
Lesuk, Gerald H.	N.Y.		Va.
Levander, Rena	N.Y.	Lewis, Ben, Jr.	
A.B. 1943, Swarthmore College		A.B. 1943, University of Virginia	Va.
Levart, Herman Henry	Miss.	Lewis, Clyde Spencer	D.C.
Levenson, Abraham Sidney	D.C.	Lewis, Daisy Mildred	D.C.
A.B. 1932, Harvard University		Lewis, David George, Jr.	D.C.
M.S. in Ed. 1936, Teachers College of City of Boston		Lewis, Edward	Va.
Levenson, Judith Shirley	Va.	Lewis, Edward Williams	B.C.
Leverington, Richard Dean	D.C.	Lewis, Edwin Newell	Iowa
Levi, Garnett William	D.C.	Lewis, Elizabeth Irene	Md.
Levin, Abram	Pa.	Lewis, Frank Hedges	
LL.B. 1936, B.C.S. 1940, Columbus University		B.S. 1937, University of Maryland	Va.
Levin, Alexander	N.Y.	Lewis, Frederick Roland	Ohio
Levin, Bernard	D.C.	Lewis, Glenn Paul	W.Va.
Levin, Edward	Conn.	Lewis, Harry Frank	
Levin, Haskell	D.C.	A.B. 1939, West Virginia University	Conn.
Levin, Henry Max	D.C.	Lewis, Helen Lawrence	Del.
Levin, Irving	N.J.	Lewis, Irving	
Levin, Isaac	D.C.	A.B. 1948, University of Pennsylvania	Md.
Levin, Jacob Solomon	D.C.	Lewis, Jack Collins	D.C.
Levin, Joseph	D.C.	Lewis, James Edward	D.C.
Levin, Leon	D.C.	Lewis, James William	
Levin, Mark	Ill.	A.B. 1933, Maryville College	N.Y.
B.S. 1948, Princeton University		Lewis, Jesse Wyeth	D.C.
Levin, Philip	Md.	Lewis, John Smith	
Levine, Alfred Bernard	Va.	A.B. 1929, Harvard University	
B.S. in E.E. 1946, Cornell University		A.M. 1930, Brown University	
M.S. in E.E. 1948, Rensselaer Polytechnic Institute		Ph.D. 1941, New York University	Va.
Levine, Boris	D.C.	Lewis, John Wallace	D.C.
B.M.E. 1934, Polytechnic Institute of Brooklyn		Lewis, John Warren	Canada
Levine, Carl Ralph	Mich.	Lewis, Joyce Winnifred	N.Y.
B.Ch.E. 1935, M.S.E. 1938, University of Michigan		Lewis, Leonard Mark	
Levine, Grace Flax	N.Y.	B.S. 1946, University of North Carolina	D.C.
Levine, Irving Abraham	D.C.	Lewis, Lunsford Harland	Va.
Levine, Irving Seth	D.C.	Lewis, Markham Van Poeson	Md.
B.S. 1941, M.S. 1941, Massachusetts Institute of Technology		Lewis, Palmer Areli	D.C.
Levine, Leonard Bernard	D.C.	Lewis, Reuben Alexander	D.C.
Levine, Samuel	N.Y.	Lewis, Robert Baughman	
A.B. 1946, Brooklyn College		A.B. 1941, University of Western Ontario	D.C.
Levine, Seymour Solon	N.Y.	Lewis, Seth	
Levine, Thelma	D.C.	A.B. 1936, The George Washington University	Tenn.
Levinson, Arnold Seymour	Va.	Lewis, Virginia Emerson	
		A.B. 1935, Washington University	
		LL.B. 1941, The George Washington University	D.C.
		Lewis, William Hubert	

Lewitz, Marian	D.C.	Lindberg, Betty Slagle	Pa.
Lexa, Frank Joseph, Jr.	Minn.	Lindberg, Carl Donald	Pa.
A.B. 1943, University of Minnesota		Lindberg, Dale Sheldon	Pa.
Leydon, James Andrew	Mass.	A.B. 1943, Bucknell University	
Leyendecker, Edward Russell, Jr.	Tex.	Lindberg, Sam Wright	D.C.
Leyes, Juan Aparicio	D.C.	Linden, George	N.Y.
L'Heureux, David Eugene	D.C.	Linden, Joseph Edwin	N.Y.
Liang, Edward Yin	D.C.	Linden, Robert Joseph	N.Y.
Lianos, Jane Randell	D.C.	Lindler, Fred B.	S.C.
Libbee, Max Scott	D.C.	A.B. 1938, Newberry College	
Libby, Edwin Clark	N.H.	Lindley, Jonathan	D.C.
Libby, Ruthven Elmer	Va.	Lindley, Thomas Madison	Ariz.
B.S. 1922, United States Naval Academy		Lindner, Lydia Dorothea	N.Y.
M.S. 1931, Columbia University		A.B. 1943, Brooklyn College	
Liberty, Cyril Jean	D.C.	Lindner, Thaddeus Alphonse	N.Y.
Libys, Leon	D.C.	Lindow, Eva Thompson	D.C.
Lichtenberg, Arthur Gilbert	N.Y.	Lindquist, Lawrence Axel	R.I.
Lichtenstein, Harold	N.Y.	Lindquist, Wallace Alfred, Jr.	Ill.
Lichtenstein, Lucille G.	D.C.	B.S. 1940, Purdue University	
Lichtenstein, Marianne	D.C.	Lindsay, Douglas Edward	N.Y.
Lichtenwalner, Jay Young	Pa.	Lindsay, Jane Carey	Va.
Lichtman, Seymour	N.J.	Lindseth, Clinton Oliver	N.D.
Lidiak, Joseph Edwin	Pa.	Lindsey, Rosamond O'Neil	Va.
Lidsky, Martin David	N.Y.	Lindsey, Ruth Elizabeth	Okla.
Lieberman, Harold Merle	D.C.	B.S. in Ed. 1948, East Central State College	
Lieberman, Herman	N.Y.	Line, Lucille	Mont.
B.S. 1935, M.S. 1936, College of the City of New York		A.B. 1940, University of Montana	
LL.B. 1942, The George Washington University		Linehack, Stanley Martin	D.C.
Liebling, Herman	N.Y.	Linehan, Daniel William	Mass.
A.B. 1941, Brooklyn College		Linehan, Edward Eugene	Mass.
A.M. 1945, American University		B.S. 1943, Boston College	
Liebow, Elliot	D.C.	Linfield, Robert Frederick	D.C.
Liebat, Barbara Colleen	Kans.	Linhof, Eric	N.Y.
Lieder, Nathan	D.C.	A.B. 1949, University of Rochester	
A.B. 1943, College of the City of New York		Link, Edgar Martin	Pa.
Lief, Donald Wolfe	D.C.	Link, Robert O.	Va.
Liekweg, William Gerard	Va.	Link, Robert Wendell	N.J.
A.B. 1938, Georgetown University		Linkins, Robert Mason	Md.
Lien, John Pershing	Va.	Linman, Douglas Gerrard	D.C.
Liepe, Wolfram	Ill.	Linowes, Ralph Robert	N.Y.
A.B. 1947, Antioch College		LL.B. 1948, Columbia University	
Liesener, Victor Frank	Wis.	Lipkey, James Ray	D.C.
Light, Bette	D.C.	Lipko, Samuel Wayne	D.C.
Light, E. Jerry	Pa.	Lipman, Charles Winfield	N.Y.
B.S. 1946, Columbia University		Lipovsky, Frank Joseph	D.C.
Light, Leona Handler	D.C.	Lippitt, Edward Gardner, Jr.	D.C.
A.B. 1946, Tufts College		Lippitt, Raymond Franklin	D.C.
Light, Virginia Gayle	D.C.	Lippitt, Thomas Perry	D.C.
Lightfoot, Bain	Va.	Lippman, Morton	N.Y.
Lii, Hwei-Chen	D.C.	Lipscomb, Nancy Harris	Mo.
B.S. 1943, Cheeloo University, China		Lipsky, Harold	D.C.
Liken, Robert Lee	Okla.	A.B. 1947, New York University	
Lilenquist, L. Blaine	Idaho	Lipson, Joanna Hazel	Va.
B.S. 1938, University of Idaho		Lipton, Robert Beryl	D.C.
Lilien, Charles Ernest	Ill.	Lischiner, Manon	N.Y.
Liljegren, Ervin James	Md.	Liska, Olga Mary	D.C.
Lillard, Kathleen Flester	Va.	Lisonbee, Bird Eugene	Va.
Lilledale, Wilma Varalee	Ohio	Lisowski, Virginia Mary	Minn.
Lillieford, Hubert Whitman	Conn.	Lister, Stanley Marsh	D.C.
Lilly, Donald Louis	Md.	Litke, Arthur Ludwig	Conn.
Linaburg, Nelson Dotton	Va.	B.S. 1944, Trinity College	
Linch, Marjorie Elaine	Mo.	M.B.A. 1947, University of Pennsylvania	
Linchuck, Stanley Martin	D.C.	Litman, Albert	D.C.
Lincoln, John Larkin IV	Va.	Litteral, Kelley	Md.
Lincoln, Judson Ovely	Va.	A.B. 1946, Washington and Lee University	
A.B. 1943, University of Maryland		Little, Arthur Franklin	D.C.
Lind, Robert Neal	Va.	Little, Doris Anita	D.C.
Lindamood, Joseph Ganam, Jr.	Md.	Little, Frances L.	N.C.
A.B. 1943, University of Maryland		Little, John Morgan	D.C.

Little, Martha Louise					
A.B. 1935, Wellesley College					
A.M. 1942, Middlebury College					
Little, Mary Jane					
Little, Robert Paul	D.C.				
Little, Russell	D.C.				
Littleton, Willis Calvin	N.Y.				
Littman, Simon	Ky.				
L.L.B. 1931, University of Maryland	D.C.				
Littwin, Charles Stuart	N.J.				
A.B. 1945, Hobart College					
Littwin, Marguerite Kathryn	Va.				
Litwin, Albert	Ill.				
A.B. 1938, Wayne University					
Litz, Paul	D.C.				
Liu, Daisy	D.C.				
Liu, Ho	D.C.				
A.B. 1942, Luignan University, China					
Livengood, Ralph Leon	D.C.				
Liverman, Myrtle Louise	Va.				
Livesay, Kathryn Ann	Mo.				
Livingston, Charles Richard	Va.				
Livingston, Gordon Kendal	N.Y.				
Livingston, Leonard Leroy	Mich.				
Livingstone, Earl Leslie	D.C.				
A.B. 1947, The George Washington University					
Lizardo, Jose Desierto	D.C.				
A.B. 1938, San Francisco State College					
A.M. 1946, The George Washington University					
Lizdas, Anthony	Md.				
Lloyd, Albert Lawrence, Jr.	Va.				
Lloyd, Benjamin Joseph, Jr.	Md.				
Lloyd, Rita Hortense	Va.				
Locher, Junior Lewis	Md.				
Lockhart, Elizabeth Berkeley	Va.				
A.B. 1937, College of William and Mary					
Lockwood, Robert Kenneth	D.C.				
A.B. 1943, Maryville College					
L.L.B. 1948, The George Washington University					
Locraft, Vonniette Bogan	Md.				
Lodato, Norman Joseph	N.Y.				
Loe, Myron L.	D.C.				
Loewy, Elaine	Pa.				
Loewy, Marvin Richardo	D.C.				
Lofgren, Moe Jean	Md.				
B.S. 1943, University of Pittsburgh					
Loffin, John James, Jr.	Va.				
Loftus, Joseph	D.C.				
Loran, Elizabeth Bronson	D.C.				
Logan, John Paul	Pa.				
Logan, Joseph Albert	Mass.				
Logwood, Linda L.	Va.				
Lohm, Thomas Alexander	Md.				
Lohman, Richard Herbert	D.C.				
Lohr, Betty Ann	D.C.				
Lokke, Bernard Molineaux	N.Y.				
Lombardi, Reilly Robert	Ohio				
Lonberger, Stanley Thomas	D.C.				
Londis, Louis James	N.Y.				
London, Arthur	Md.				
London, John Monte	N.Y.				
A.B. 1941, Harvard University					
Loneragan, Ann Yates	Conn.				
B.S. 1948, Wilson Teachers College					
Loneragan, David Leo	Calif.				
Long, Bacel Ellis	W.Va.				
Long, Billie Ketchie	Wash.				
Long, Charles William	Md.				
Long, Dewey Cecil	Okl.				
Long, George Edward	Va.				
Long, Grace Horton					
Long, Helen Cornelia	D.C.				
Long, Jack Rush	D.C.				
Long, Margaret Freas	D.C.				
B.S. 1946, American University					
Long, Mary Frances	Tenn.				
B.S. 1934, State College, Joshua City, Tenn.					
Long, Mary Louise	W.Va.				
Long, Melvin Eugene	Pa.				
Long, Orrin	Ill.				
A.B. 1941, University of Chicago					
Long, Paul Robert	Pa.				
Long, Penelope Graham	Va.				
B.S. 1935, Wilson Teachers College					
Long, Richard Ward	D.C.				
Long, Robert Lawrence	Kans.				
Longen, Edmund Herman	S.D.				
Longfellow, Don Woodward	D.C.				
Longfellow, Edwin Connor	N.I.				
Longley, Mary Olga	Calif.				
Longoria, Victor Manuel	D.C.				
Longstreet, Archie P.	N.I.				
Longstreth, Wallace Isaac	Pa.				
Longyear, Andrew Rudston	D.C.				
Longyear, Helen Elizabeth	D.C.				
Longyear, Robert Rudston	Iowa				
Loof, Donald John	Va.				
Looman, Richard Edward	N.Y.				
Loomis, Gilbert Brainard, Jr.	Tes.				
Loomis, Gwendolyn Yvonne	D.C.				
Loomis, Helene Elizabeth	W.Va.				
Loomis, Jerome Lathrop	Ill.				
Loomis, Maxine Ann	Md.				
Loos, Dickson Randall					
A.B. 1945, Dartmouth College					
B.S. 1945, Yale University	Kans.				
Lopez, Matel Grace	D.C.				
Lopez, Cornelio					
A.B. 1927, University of Iowa	Puerto Rico				
Lopez, Israel	Tes.				
Lopez, Leo William					
A.B. 1937, St. Mary's College	D.C.				
Lopez, Lola Rios					
A.B. 1937, Our Lady of the Lake College	D.C.				
Lopez, Mantio M.	Md.				
Lopez, Manuel Herve					
A.B. 1941, Clark University	Mo.				
Lorch, Margaret JoAnne	D.C.				
Lore, James Frederick	Minn.				
Loren, Phyllis C.	Va.				
Loren, William Odin	D.C.				
Lorence, Elizabeth May	Ill.				
Lorenz, James Edward	D.C.				
Loro, Marion Wilson	N.Y.				
Lorusso, Angelo Joseph	Pa.				
Lorusso, Rudolph Richard	N.J.				
Lott, Fred Eli					
A.B. 1947, A.M. 1948, Syracuse University					
Loudon, Elizabeth McIntyre	Va.				
A.B. 1932, University of Michigan					
Louk, Elvin Gray	Va.				
Louk, Ralph Glynn	D.C.				
Lourenco, Manuel Joseph	Ohio				
Lourie, Leonard Levy					
Lourie, Miami University	Pa.				
A.B. 1942, Miami University					
Loux, Alvin Lincoln					
A.B. 1938, Ursinus College					
A.M. 1940, Columbia University					

Lovaas, Lloyd C. A.B. 1947, The George Washington University	Minn.	Ludwig, Helen A.B. 1948, The George Washington University	D.C.
Love, Ferne Mabel	Pa.	Luebke, Warren Herman	D.C.
Love, James William	Pa.	Luedeman, Hazel McClure	Va.
Love, Leland Willis B.Ch.E. 1938, Ohio State University	Va.	A.B. 1926, University of Kansas	
M.S. 1940, Washington University		Luers, Mildred May	D.C.
Love, Winifred	W.Va.	Luhtanen, Andrew Aatos	D.C.
A.B. 1935, Mary Baldwin College		Luke, Malvin Richard, Jr.	Utah
Loveless, Ernest Alvin	Md.	Lukens, Arvilla Ina	D.C.
A.B. 1943, University of Maryland		Lukens, Fred Edward	Idaho
LL.B. 1947, The George Washington University		A.B. 1908, University of Idaho	
Lovell, Guy W.	D.C.	Lukens, Frederick	Idaho
Lovewell, Suzette	D.C.	A.B. 1947, University of Idaho	
Low, Richard James	Mass.	Lukens, John Fritchie	Idaho
Lowder, Harold Lee	Md.	A.B. 1936, University of Idaho	
Lowe, Catherine Veronica	D.C.	Luker, Margot Jelleff	Md.
Lowe, Charles Christian	D.C.	Luka, Raymond Joseph	N.Y.
Lowe, Ira Melvin	D.C.	Lulkoski, Winifred Adele	N.Y.
Lowe, J. William	W.Va.	A.B. 1945, New York State College for Teachers	
Lowenbach, John William	D.C.	Lum, David Walker	D.C.
Lowenthal, Emil	D.C.	Lum, Edwin Chung	D.C.
Lowenthal, Herman	D.C.	Lumer, Wilfred	D.C.
Lower, George Elmer	D.C.	Lunche, Charlene Z.	Minn.
Lowrie, Elwood Dawson	D.C.	Lund, John Freeman	Pa.
Lowrie, Virginia Dare	D.C.	Lund, Van Metre	Iowa
Lowry, Allen Wilson	D.C.	B.S. 1944, Iowa State College	
Loy, John Irving	Ohio	Lundin, Dorothy K.	D.C.
A.B. 1942, University of California at Los Angeles	Va.	A.B. 1937, Hunter College	
Loyd, Arden Robinson	D.C.	Lundgren, Henry Willard	Wash.
Loyd, Elizabeth Gragg	D.C.	Lundgren, Suzanne Stone	D.C.
Loyd, Ray Dean	D.C.	Lundquist, George Arthur	Md.
Loyk, Victor	Va.	B.S. 1948, University of Maryland	
Lozano, Edgardo Manuel	Del.	Lundy, Julian Percy	S.C.
Lozano-Cantu, Oscar Francisco	Mexico	Lung, Ernest Hezekiah	D.C.
Lubczyk, Johanna	Pa.	B.S. 1938, University of Maryland	
Luber, Shirley Natalie	D.C.	Lunn, Ruth Martine	D.C.
Lubin, Joseph Meyers	Md.	B.S. in Ed. 1936, State Teachers College, St. Cloud, Minn.	
Lucas, Bertha Lovell	D.C.	Lunsford, Linwood E.	Md.
A.B. 1925, The George Washington University		A.B. 1937, University of Virginia	
Lucas, Charles William	Va.	Lupo, Frank John	D.C.
Lucas, Henry August	N.Y.	Luscomb, Charles Edward, Jr.	Conn.
Lucas, Joseph John	Pa.	Lush, Roberta Cregier	D.C.
Lucas, Marguerite Vernon	Ind.	Lusk, Rufus Speake	D.C.
Lucas, Mildred Foster	Va.	B.S. 1948, Georgetown University	
A.B. 1948, The George Washington University		Luther, Elmer Eugene	Mo.
Lucas, Sara Elizabeth	N.J.	Luther, Lloyd Slade	D.C.
A.B. 1946, Swarthmore College		B.S. 1933, Rhode Island State Teachers College	
Luce, Charles Francis	Md.	Luther, Mary Jean	D.C.
Luce, Karine Pattison	D.C.	Lutz, Paul Alan	Pa.
B.S. 1933, A.M. 1937, Columbia University		Lutz, William Fletcher	Va.
Luce, Robert James	D.C.	B.S. in Econ. 1947, Franklin and Marshall College	
Lucia, Angela	Minn.	Luyten, Maria Elsa	Netherlands
Lucian, John Paul	D.C.	M.R. in de rechten 1946, Leiden University	
Luck, William Bryant	Va.	Lyda, James Claude H.	D.C.
Luckett, Richard Samuel, Jr.	Va.	A.B. in Govt. 1948, The George Washington University	
A.B. 1942, Randolph-Macon College		Lyle, Robert Eugene	D.C.
Lucky, Albert B., Jr.	Fla.	Lyle, Robert Simpson	Va.
A.B. 1946, Georgetown University		A.B. 1929, Dartmouth College	
Luctman, Frieda Frank	D.C.	M.S. 1940, Cornell University	
Lucy, Florence Regina	Pa.	Lyles, George Robert	D.C.
Luddeke, Rhoda Natalie	D.C.	Lyman, Lawrence	Pa.
A.B. 1948, University of Cincinnati		Lyman, Marjorie Anne	Va.
Ludka, Chester Edward	N.Y.	Lynch, James, Jr.	D.C.
Ludko, Pauline Priscilla	Conn.	Lynch, John Currian	D.C.
		Lynch, John William	Md.
		Lynch, Marion Paul	D.C.

Maggio, Paul Angelo	N.Y.	Malone, William Grady	La.
Magill, Arthur Andrews	D.C.	B.S. 1941, Louisiana State University	N.J.
B.S. 1940, Haverford College		Maloney, Edward	Va.
Magin, George Benedict, Jr.	Tenn.	Maloney, Ellen Elizabeth	D.C.
B.S. 1946, University of Chattanooga	N.J.	A.B. 1929, University of Maine	Va.
Magnan, John Leslie	D.C.	Maloney, Grace Catharine	D.C.
Magner, Joseph Paul	Ohio	Maloney, Helen Johnson	Va.
Magness, John Lower	Mont.	Maloney, James Edward	D.C.
Magnus, Frederick	D.C.	Maloney, Patricia Claire	D.C.
Magruder, Donald Richard	D.C.	Maloney, William Everett	D.C.
Magruder, Wilson Kent	D.C.	Malowski, Mary Marguerite	Minn.
Maguire, Katherine Doehne	Pa.	Malstrom, Robert Andrew	Mich.
A.B. 1948, Hood College		Maltagliati, Oreste Francis	D.C.
Magurn, Joseph John	D.C.	Maltby, Wilson Ray	Va.
A.B. 1938, Harvard University		A.B. 1930, Milton College	
Mahaney, Thomas Preston	Mich.	A.M. 1933, University of Wisconsin	
Mahar, Daniel John	N.Y.	Maltman, William Leneave	D.C.
Mahardy, John Thomas	N.Y.	B.S. 1943, University of Oregon	
Maber, Francis Patrick	Tex.	Maltz, Albert Gerald	D.C.
Mahler, Arthur Peter	N.Y.	Malven, Cal Stanislaus	Va.
Mahler, Nora F.	Tex.	Mamish, Julia	W.Va.
Mahoney, James William	Del.	Mancall, Frances Addie	Fla.
Mahoney, John Andrew	D.C.	Mandel, Bernard	Va.
Mahoney, John Henry	Va.	A.B. 1931, A.M. 1934, University	
Mahoney, Maurice	Ind.	of Pennsylvania	
Mahoney, Richard Joseph	N.Y.	Mandel, Howard	N.Y.
Maida, Stewart Anthony	Md.	A.B. 1939, City College of the City	
Majers, John Sigmund	D.C.	of New York	
Main, George Henry	Md.	Mandel, Nathan	N.Y.
Main, John Edwin	D.C.	Mandelberg, Joseph	N.Y.
Main, Rita Estelle	D.C.	B.S. 1947, City College of the City	
Main, William Elmer	D.C.	of New York	
Mainhart, Howard Morsell	Md.	Mandes, James Charles	D.C.
Maire, Cyril Emil, Jr.	D.C.	A.B. 1947, The George Washington	
Maire, Elisabeth Lucille	Md.	University	
Maisch, Jane Costello	Tex.	Mandjuria, Andrew Anthony	Md.
A.B. 1942, The George Washington		Mandragos, Constantine Nicholas	D.C.
University		Mangan, James Augustine, Jr.	Va.
Maisch, Ormand Russell	Tex.	Manger, William Franklin	Va.
Majchryk, Edmund Steven	N.Y.	Mangold, Robert John	D.C.
Maki, Walfred Victor	Minn.	Mangum, Mary Coe	Va.
Makiedo, Ljubica Laca	D.C.	Mangun, John Warren	D.C.
Malaier, Elbert Hubbard	Ga.	Manico, Samuel Anthony	N.Y.
Malask, Bernice	D.C.	Manitass, Elly Despina	D.C.
Malboeuf, Alfred Charles	Calif.	Mankin, Arthur Kenneth	D.C.
A.B. 1943, University of California		Manley, Albert	D.C.
Malcolm, Lewis Frederick, Jr.	Md.	Manley, Margaret	Minn.
B.S. in M.E. 1935, Purdue University		Manly, R. J.	D.C.
Malecki, Robert Joseph	Va.	A.B. 1933, Austin College	
B.S. 1943, Central State Teachers		Mann, Betty Lou	Md.
College		Mann, Charles Clark	Va.
Maletz, Charlotte Doris	D.C.	B.S. 1934, United States Naval	
A.B. 1947, The George Washington		Academy	
University		Mann, Charles Kenneth	D.C.
Maliniak, Irene Maja	D.C.	Mann, Donegan	D.C.
Malison, Robert	D.C.	A.B. 1947, The George Washington	
Malkin, Jack	D.C.	University	
Malkin, Warren Preston	Va.	Mann, Jean Carol	Md.
Mallay, Jane Ann	N.J.	Mann, Jesse A.	D.C.
Malley, Francis Edward	D.C.	A.B. 1947, Georgetown University	
Mallgrave, William John	D.C.	Mann, Robert Urban	D.C.
Mallios, Margarita	Va.	Mann, Shirley Louise	Md.
Mallon, Jerome Anthony	Va.	Manne, Jacqueline	N.J.
Mallory, Suzanne Lippincott		Manning, Charles Madison	Ky.
A.B. 1943, Bryn Mawr College		A.B. 1947, Union College, Ky.	
Mallou, Samuel	D.C.	Manning, Ellis Wooster, Jr.	Md.
Malloy, Honore Elizabeth	Pa.	Manning, Francis John	Va.
Malmat, Harold	N.Y.	Manning, Glenn Franklin	Ala.
Malone, John Edmund	Md.	L.L.B. 1948, University of Alabama	
Malone, Marguerite Harrison	D.C.	Manning, Joseph Howard	Md.
Malone, Paul	D.C.	Manning, Louis Meneghini	Md.
Malone, Ralph Whatley	Md.		

Manning, Ruth Martin	D.C.	Marks, Lee Robert, Jr.	Ga.
A.B. 1928, Oakland City College		Marks, Leta Sue	D.C.
A.B. in L.S. 1929, University of Michigan		Marks, Paulina Konoff	N.Y.
Mano, Kyuma	Ill.	A.B. 1945, Oberlin College	Md.
Manolatos, Spiro George	D.C.	Marks, Solomon	
Manos, Nicholas Emmanuel	Calif.	B.S. in Ed. 1937, College of the City of New York	D.C.
A.B. 1938, A.M. 1942, University of California		Markwood, James Anderson	D.C.
Manoukian, Rachel Elizabeth	D.C.	Markwood, Juliet	Tenn.
Mansfield, Mae Helen	Ill.	Marlin, Walter, Jr.	Calif.
Mansfield, William Noel	Va.	Marlow, Charles Austin, Jr.	Md.
B.S. 1924, United States Naval Academy		Marlow, Howard Waring	D.C.
Manson, Joseph Peace	Wis.	Marlow, William Haworth	Va.
B.S. 1942, University of Minnesota		Marlowe, George Albert, Jr.	
Mantell, Lillian	Va.	Marmet, Robert Arthur	
A.B. 1932, Hunter College		B.S. 1946, United States Naval Academy	N.Y.
Manthey, Richard Gledhill	Conn.	Marmor, Alfred Charles	D.C.
B.S. 1948, Western Reserve University		Marowitz, David Daniel	N.M.
Manucia, Herbert L.	Va.	Marowitz, Virginia Woodbury	
Manville, Robert Wellensiek	D.C.	A.B. 1946, University of Maryland	Va.
Manzano, Teodoro	D.C.	Marquardt, Eugene Anthony	Va.
A.B. 1947, University of Texas		Marquardt, Frank Richard	Mass.
Maples, Houston Ledbetter, Jr.	Md.	Marques, Mary Gilda	
Marangella, Joel Bray	Va.	B.S. in Ed. 1941, State Teachers College, Salem, Mass.	Md.
Maravalli, Eugenia Rose	Pa.	A.M. in B.A., 1943, Boston University	Va.
Marcel, Louis Santon	D.C.	Marrin, Alfred Vincent Brady	D.C.
Marceron, Louis Norman		Marra, Calvin Rodes	Va.
March, Christian Laurin, Jr.	N.Y.	Marschalk, Mary Madelyn	Va.
March, Francis Andrew, Jr.	Pa.	Marsh, Ernest Victor	N.C.
March, Joseph Wolf	N.Y.	Marsh, Harold Newman, Jr.	Md.
Marchese, Marion Veronica	D.C.	Marsh, Henry Norman	N.C.
Marchi, Louis Basil	N.J.	Marsh, Nancy Bernice	Md.
Marciniak, Frank Walter	D.C.	A.B. 1947, The George Washington University	D.C.
Marclay, William E.	N.Y.	Marsh, Richard Wade	
Marcus, Carl	D.C.	A.B. 1945, American University	N.Y.
Marcuse, Ernest	Pa.	Marshak, Dennis	D.C.
Marcing, Charles Austin		Marshall, Charles E. A.	
A.B. 1930, Pennsylvania State College		A.B. 1920, University of Virginia	W.Va.
Mares, Christie Gilbert	Va.	Marshall, Charles Lance, Jr.	D.C.
Maresca, Pasquale Vincent, Jr.	N.Y.	B.S. in E.E. 1949, Purdue University	
Margaritis, Nicholas John	Md.	Marshall, Charles Louis	
Margolin, Emanuel David	N.Y.	B.S. 1934, M.S. 1939, Fordham University	Va.
A.B. 1944, Brooklyn College		Marshall, Edward Lester, Jr.	Va.
Margolin, Joseph Bernard	N.Y.	Marshall, John C.	D.C.
A.B. 1943, Brooklyn College		Marshall, John Thomas	Va.
A.M. 1947, The George Washington University		Marshall, Lilyan May	Va.
Mariano, Joseph Frank	N.J.	Marshall, Mandelene Swindell	Va.
Marillo, Christy August	N.Y.	Marshall, Margaret Ford	N.Y.
Marinelli, Victor Francis	Md.	B.S. 1930, Madison College	D.C.
Marino, Frank Thomas	D.C.	Marshall, Marvin Lawrence	D.C.
Marinoble, James Vincent	Va.	Marshall, Norton Little	Va.
Marinoff, Marilyn Rosalyn	D.C.	Marshall, Ruth	Ill.
Marinucci, Louis Joseph	D.C.	Marshall, Samuel	
B.S. in Chem. 1946, University of South Carolina		Marshall, Walter Leslie	N.C.
Marion, Paul James	Md.	A.B. 1940, Illinois College	
Marion, Sarah Crockett	Miss.	Marshburn, Bryan Dow	D.C.
Markert, George Washington III	N.C.	B.S. 1945, Wake Forest College	Va.
Markham, Charles Buchanan		Marshburn, Charles E.	Va.
A.B. 1945, Duke University		Marsteller, Herbert Heiskell	
Markham, George Douglas	D.C.	Martell, Charles B.	
Markham, Richard Allen	D.C.	B.S. 1930, United States Naval Academy	
Markham, Wiley Bruce	D.C.	M.S. 1938, Carnegie Institute of Technology	D.C.
Markle, Mary Virginia	Pa.	Martell, Robert John	D.C.
B.S. in Ed. 1944, University of Pennsylvania		Martell, Robert Joseph	N.Y.
Markmann, George Howe	Va.	A.B. 1949, University of Maryland	
Markowitz, Irving	N.J.	Marten, Seymour	
Marks, Donald	N.Y.		
Marks, Freda Jeanne	D.C.		

Martens, Doris Katharine A.B. 1944, University of Southern California	Calif.	Martino, Benjamin Carmen	N.J.
Martin, Albert Ralph	Md.	Martins, Elson Solano	Brazil
Martin, Albro A.B. 1948, The George Washington University	Ark.	Martins, Frank	N.J.
Martin, Barbara Anne	Tenn.	Martinson, Edna Marie	N.H.
Martin, Beatrice Douglas	Va.	Martowicz, Edward T.	Ohio
Martin, Carrie Panebaker	Md.	Martusevich, Gregory Paul	N.Y.
Martin, Daniel Walter	Va.	Martyn, Earl William	D.C.
Martin, Dean Harrington	D.C.	A.B. 1939, Catholic University of America	
Martin, Donald Drew	D.C.	Marusic, Rose Agnes	D.C.
Martin, Edward Eugene	Nebr.	Martin, Stephen Walter	N.J.
Martin, Frances Julia	D.C.	Marvey, Adolph Louis	Va.
A.B. 1946, Trinity College		Marx, James Henry	Wis.
Martin, Frank Eugene, Jr.	D.C.	B.S. 1946, Duke University	
Martin, Fred Allen	Mont.	Marx, Joseph N.	D.C.
A.B. 1948, The George Washington University		Marzo, Floyd Augustus	D.C.
Martin, Galen Afton	W.Va.	Mascari, Ray John	Md.
Martin, George Thornton	Va.	Maser, Wesley John	Nebr.
Martin, Harry James	Va.	Mashburn, Thomas Vincent	Ala.
Martin, Harry Wilson	N.C.	B.S. 1947, University of Alabama	
B.S. 1943, Western Carolina Teachers College		Masiello, Joseph Alvin	Va.
Martin, Hugh Ingram	N.Y.	Maskaleris, Christos Louis	Conn.
Martin, James Alfred	D.C.	Maslak, John	Pa.
B.S. 1940, United States Coast Guard Academy		Maslanik, William Boris	Pa.
Martin, James Lewis, Jr.	D.C.	B.S. 1948, University of Pittsburgh	
Martin, Janice Catherine	Va.	Mason, Archibald Osburn, Jr.	Mich.
A.B. 1948, The George Washington University		Mason, Chaytor Diez	Va.
Martin, Jerome Daniel	Iowa	Mason, Gwendolyn Hunsicker	Va.
Martin, Julius Corpening	D.C.	Mason, Irma S.	N.Y.
Martin, Kenneth Albert	W.Va.	B.S. 1930, Drexel Institute of Technology	
Martin, Laura Evelyn	D.C.	Mason, Katharine Natalie	Va.
Martin, Lawrence Stephen	D.C.	B.S. in Educ. 1946, Madison College (Va.)	
Martin, Leyland Myers	Md.	Mason, Martin Wesley	Va.
B.S. 1934, University of Arkansas		Mason, Robert Elmer	Conn.
Martin, Major Thomas, Jr.	Md.	Mason, Shirley June	D.C.
Martin, Marjorie	N.H.	B.S. 1946, The George Washington University	
Martin, Mark Joseph	Md.	M.S. 1948, University of Delaware	
Martin, Marshall Alden, Jr.	Va.	Mason, William Ernest	Ill.
Martin, Mary Carolyn	D.C.	Masse, Marilyn Autrey	Va.
Martin, Mary Kathryn	Va.	A.B. 1944, Henderson State Teachers College, Arkadelphia, Ark.	
Martin, Mildred Alleen	Okla.	Masse, Samson	N.Y.
Martin, Paul Calvin	Pa.	Massey, Frank Stanley	D.C.
Martin, Paul Kyler	D.C.	Massey, Jerome Louis	Va.
Martin, Peter J.	N.Y.	Massey, Joseph Frederick	D.C.
Martin, Ralph Edward	Maine	Massey, Marvin Moore, Jr.	Va.
Martin, Richard Alfred	Maine	Massie, Cary Winston	Va.
Martin, Richard Alton	Ohio	Massie, Katie Garland	Va.
Martin, Robert Dean	Calif.	B.S. 1935, State Teachers College, Farmville, Va.	
Martin, Robert Douglas	N.C.	Massie, Minnie Reardon	W.Va.
B.S. 1947, East Carolina Teachers College		A.B. 1933, Concord College	
Martin, Robert Henry	Pa.	Mastenbrook, Henry John	Ohio
Martin, Robert Laverne	Ala.	B.S. 1942, Case School of Applied Science	
Martin, Rosa Irene	Va.	Masters, Marcelle C.	Ark.
Martin, Thomas Archie	D.C.	Masters, Margaret Ann	Pa.
Martin, Watt Nicholas	N.C.	Masterson, Eleanor Elizabeth	Va.
Martin, William Bartlett	Ark.	Mastic, Thomas Paul	Pa.
Martin, William Frederick, Jr.	D.C.	Mastrone, Viola Virginia	D.C.
Martin, Zagorka Plausic	Va.	Mastropaslo, Salvatore	N.Y.
Martinelli, Leo	Md.	B.S. in Ed. 1940, College of the City of New York	
Martinelli, Patsy Joseph	D.C.	Masucci, Robert H.	D.C.
Martinez, Ramon Paul	D.C.	Matelski, Stanley Michael, Jr.	Va.
Martini, Anthony Francis	Pa.	B.S. in Chem. E. 1941, Pennsylvania State College	
A.B. 1948, The George Washington University		Matera, Ralph Joseph	D.C.
		B.S. 1946, The George Washington University	

Mates, Edward I. A.B. 1939, Brooklyn College	N.Y.	May, Barbara May, Garnett Hinshaw	D.C. N.C.
Mates, Ida Elaine Matheney, Elizabeth Rachel B.S. 1939, Radford College	D.C. Va.	B.S. 1944, High Point College May, Patricia Ann A.B. 1945, A.M. 1946, Stanford University	Va. Md. D.C. Md. Maine N.Y.
Matheney, Elizabeth Jane Matheny, Grace Waddell Matheny, Lula S. Mathers, Alex P. B.S. 1931, University of Florida M.S. 1946, Tulane University	Va. Va. Md. Va.	May, Roy Edgar May, Thomas James Maybec, John Stanley Mayberry, Lawrence Edgar Mayberry, Paul Raymond Mayeda, Tadashi Andrew B.S. 1948, Hobart College	Md. D.C. Md. Maine N.Y. D.C. D.C.
Matheson, John Douglas B.S. 1933, United States Military Academy	Va.	Mayer, Fred Louis Mayer, Joseph Henry A.B. 1939, University of Chicago	D.C. D.C. Calif. D.C. D.C.
Mathews, Edward Ray Mathews, Georgina Hammond Mathias, Richard Bingham Mathieson, Walter Whitman, Jr. Mathis, Irving Mathis, William Lowrey B.S. in M.E. 1947, Duke University	Ark. Va. D.C. D.C. N.Y. Tenn.	Mayes, Basil Lamar Mayfield, Thomas Fite Mayland, Isabelle Dorland A.B. 1942, Florida State College for Women	Puerto Rico Mich. Md. Ill. D.C. Puerto Rico
Mation, Frank C. Matlowsky, Bernice A.B. 1947, A.M. 1948, Mount Holyoke College	Minn. D.C.	Maymi, Protasio Mayne, John Cleland A.B. 1948, Albion College	Puerto Rico Mich. Md. Ill. D.C.
Matson, Richard Lee Matsumoto, Chizuko Matthes, Chester Anthony Mathews, Charles Donald A.B. 1948, The George Washington University	Iowa D.C. D.C. Tex.	Maynor, Leon DeWitt Mayo, Harold Emmett Mayo, Reid Dennis Mayoral, Jose Angel B.B.A. 1939, University of Puerto Rico	Md. Ill. D.C. Puerto Rico D.C.
Mathews, Doris Rounder A.B. 1948, The George Washington University	Tex.	Mayo-Wells, Jean Oloo A.B. 1936, Syracuse University	D.C. D.C.
Mathews, Edward Patrick, Jr. Mathews, Loren Allen A.B. 1940, Union College	Fla. Md.	Mayo-Wells, Wilfrid James Mays, Oscar Ramsey Mazel, Ida Adel Mazenderani, Abraham Khajavi Mazero, John Robert Mazza, Louis Francis McAboy, Lyman Randolph A.B. 1936, University of Maryland	Va. D.C. Pa. Va. D.C. D.C.
Mathews, Reynold Judson Mathews, Richard Moore Mattia, Louis Joseph Mattimore, Walter Bernard LL.B. 1947, The George Washington University	D.C. Md. D.C. N.Y.	McAllinden, John Michael McAllister, James Francis McAllister, Sandra Margaret McAmis, William Simpson B.S. 1933, Kansas State College McAnallen, Frances Floria McAnear, Frank Ed A.B. 1945, The George Washington University	D.C. Md. N.Y. Kans. Md. Ark. N.C. D.C. Nebr.
Mattingly, Anne Mathilde Mattingly, Evelyn Sarah Mattingly, Mary Theresa B.S. 1948, Wilson Teachers College Mattingly, Owen Franklin Mattingly, Thomas Ernest, Jr. A.B. 1948, The George Washington University	N.Y. Md. Va. D.C. Md. Md.	McAuley, John Hoyt McAuliff, Rita Catherine McAuliffe, Clinton Earl B.S. 1943, United States Coast Guard Academy	N.C. D.C. Nebr.
Mattos, Virginia Belle Mattson, Arthur Richard Mattson, Helen Irene A.B. 1943, The George Washington University	D.C. D.C. D.C.	McAvoy, Philip James McBride, Daniel Arthur B.M.E. 1947, The George Washington University	Maine D.C.
Matulis, Florence Frances Matusic, Frank, Jr. Mauk, Wallace Hamilton Maupin, Dorothy Ray Maupin, James Cary Maurer, George Joseph Maurer, Herbert Maurice Mauriello, Nicholas Michael Mauro, Louis Quarto Maury, Ann Henderson Mavridia, Photios Adam Mawhood, Samuel Allen Mazey, Henry Robert Maxson, Marjorie Lorene Maxwell, Frederick Brooks, Jr. Maxwell, Raymond Carl, Jr.	N.J. Pa. D.C. D.C. Calif. Pa. Calif. N.J. N.Y. Md. Md. Va. Va. D.C. Md. Va.	McBride, Willard Carlos B.S. 1948, University of Maryland McBroom, Janice Koran McBurnett, Roe David, Jr. B.S. in E.E. 1944, Georgia School of Technology McCabe, Thomas Robert A.B. 1940, Brown University McCaifrey, Elva McCain, Thurlow Doane McCall, Barbara Ann McCall, Bryant Franklin McCall, Chester Hayden, Jr. McCall, Lloyd Newell	D.C. Kans. Tenn. Conn. Minn. Wash. Ky. Fla. Md. Va.

McCalley, John Wallace A.B. 1945, A.M. 1947, The George Washington University	Calif.	McColloch, Charles Jack McCollum, Oscar D., Jr. A.B. 1943, University of Kansas City	Ga. Mo. Calif.
McCallum, Maurice Duncan A.B. 1942, The George Washington University	Miss.	McComas, Earl W. B.S. 1916, University of California	N.J.
McCamy, Margaret Elizabeth A.B. 1933, New Jersey College for Women	N.J.	McComb, Archibald Howell, Jr. B.S. 1937, Webb Institute of Naval Architecture	N.J.
McCann, Dorothy Patricia A.B. 1948, The George Washington University	D.C.	McComb, Margaret Smith McConnel, Mary Alice A.B. 1932, Hollins College	N.J. Fla.
McCann, Mamie A.B. 1910, University of Kentucky	Ky.	McConnell, Henry James McConnell, John Aloysius McConnell, Richard D.	Ill. Va. Va.
McCann, Marcella	D.C.	McConnell, Russel Clair	Pa.
McCann, Robert Thomas	D.C.	McCool, Cornelius Joseph	Pa.
McCarrao, John Daniel B.S. 1948, Georgetown University	N.J.	McCord, Franklin Otto McCorkle, Howard, Jr.	Iowa Pa.
McCart, James Wilson	Va.	McCormack, Charles Goodsell A.B. 1918, Drury College	D.C.
McCarthy, Daniel Joseph	D.C.	M.D. 1925, Washington University	Mass.
McCarthy, Elizabeth Ann	D.C.	McCormack, Grace A.B. 1941, University of Rochester	Pa.
McCarthy, Eunice Mary A.B. 1948, Duke University	Mass.	McCormack, James Stanley, Jr. McCormick, Anna Moffatt McCormick, Edward Mack	Pa. Va. Va.
McCarthy, John Ernest	D.C.	B.S. 1941, M.S. 1947, Kansas State Teachers College, Pittsburg	W.Va.
McCarthy, John Robert	Ohio	McCormick, Shirley Viola McCormick, William Carlyle	Ga. W.Va.
McCarthy, Margaret Angela	Va.	A.B. 1918, University of West Virginia	D.C.
McCarthy, Mary Ellen	D.C.	McCoskey, Robert Edger	D.C.
McCarthy, Ralph Eugene	D.C.	McCown, William Dewell A.B. 1941, The George Washington University	D.C.
McCartney, Junius Acree	D.C.	McCoy, Marshall Leri McCoy, Thomas Raymond	Va. D.C.
McCartney, Theodore Robinson B.F.A. 1948, School of the Art Institute of Chicago	Ill.	McCracken, Mary Lee A.B. 1936, University of Richmond	D.C.
McCarthy, Charles Dennis B.S. in M.E. 1941, Northeastern University	D.C.	McCracken, Kelly Thomas, Jr. McCrane, Thomas Joseph	Va. Pa.
LL.B. 1948, Boston University Law School		McCraw, Blanche McCready, Doris Pearl	D.C. D.C.
McCarty, Jacqueline Logan	Va.	McCreight, Charles Edward McCubbin, James Melvin	D.C. D.C.
McCauley, William D.	D.C.	McCubbin, John Grayson McCubbin, William Parke	D.C. D.C.
McCaustland, Stanley Lee B.S. 1948, Ursinus College	Pa.	McCue, Ignatius Lawrence McCue, John Stuart	D.C. N.Y.
McCawley, William Carson	D.C.	McCulloch, John Kinsey McCullough, William Harrison	Ohio Md.
McCeney, Buchanan Houston, Jr.	D.C.	McCune, Violet Kellogg A.B. 1948, The George Washington University	N.Y.
McCeney, Norman Francis A.B. 1948, The George Washington University	D.C.	McCurdy, Jayneleen McCuskey, Elbert Scott	D.C. Ark.
McClain, Edward F.	D.C.	McCutchen, Sara Kennedy McCutcheon, Sara Barbara	D.C. Md.
McClanahan, Carl B.S. 1948, Georgetown University	D.C.	B.S. 1948, University of Maryland	
McClanahan, James Clifton	Md.	McDade, James Wright McDaniel, John Bennett	Tex. Md.
McClary, Dillon Rymor A.B. 1911, University of Tennessee	D.C.	B.E.E. 1946, University of Louisville	W.Va.
McClary, Houston Walter	Va.	McDaniel, Mildred Virginia McDaniels, James Ellis	Pa.
McClary, Carroll J.	Md.	McDermott, Delia Ethel McDermott, Edward Park	D.C. Ark.
McClary, Edwin Lester	D.C.	B.S. in E.E. 1947, University of Arkansas	Tex.
McClellan, Ethel Shoemaker	Pa.	McDermott, Jack Chipman McDermott, Norbert Coyne, Jr. McDermott, Thomas Joseph	Pa. W.Va.
McClellan, William Alfred	Md.		
McClelland, James Robert	D.C.		
McClifford, Jimmie Pauline	Va.		
McClish, Borden Douglas	Va.		
McCloskey, John Stevens	D.C.		
McCloskey, Owen Thomas B.S. 1932, Ohio State University	Ohio		
McCloskey, Sylvester John	Pa.		
McCloughan, Patricia Lola	Mo.		
McCloy, Edward B.S.C. 1940, M.B.A. 1947, State University of Iowa	Iowa		
McClure, Rex Clark B.S. 1949, University of Pennsylvania	D.C.		
McClurg, Laura Sherrin A.B. 1926, University of Washington	D.C.		

McDermott, William Thomas	Mass.	McGrail, Edward Hugh	N.J.
B.S. 1935, University of New Hampshire		A.B. 1943, St. Peter's College	
M.S. in Ed. 1936, Boston University		LL.B. 1948, Georgetown University	Maine
McDevitt, John Newman	Mass.	McGrail, Geraldine Gertrude	Mass.
McDill, Thomas	Ohio	McGrath, Charles Joseph	N.Y.
A.B. 1948, Miami University		McGrath, Daniel Gerard	
McDonald, Brian Thomas	D.C.	LL.B. 1930, St. John's University	
McDonald, Donald Dean	D.C.	LL.M. 1931, Brooklyn College	Va.
McDonald, Evelyn Josephine	Iowa	McGrath, Peggy Anne	Va.
A.B. 1947, The George Washington University		McGraw, Arthur Keith	Va.
McDonald, John Burke	D.C.	McGraw, Carrington Belt, Jr.	Va.
McDonald, Leona Eileen	Iowa	McGraw, Clinton Jackson, Jr.	D.C.
McDonald, Lynette	Conn.	McGraw, Shirlie Ellen	Pa.
McDonald, Oliver Gene	D.C.	McGrew, William Michael	Va.
McDonough, John Joseph	D.C.	McGrief, LaDonna Lee	D.C.
McDonough, Raymond John	N.Y.	McGuerty, Richard Thomas	Wis.
McDonough, Rita Sarah	Mass.	McGuigan, Francis Joseph	N.Y.
McDonough, Russell Charles	Mont.	McGuinness, George Dennis	D.C.
McDonough, William R.	D.C.	McGuire, Ethel Lucille	Va.
McDowell, Janet Beverly	D.C.	McGuire, James Jackson	D.C.
McDowell, Mildred Ann	Va.	McGuire, John Griscom	N.Y.
McDuffee, Lois June	Conn.	McGuire, Kenneth James	D.C.
McElrath, Miles Kenneth, Jr.	Iowa	McGuire, Ralph Jack	
McElroy, Anita Tillman	Okla.	A.B. 1947, The George Washington University	Maine
McElroy, Charles Raymond	Va.	McGuire, Ruth Evelyn	Va.
McElroy, John Dale		McGurrian, James Joseph, Jr.	D.C.
McElroy, John William		McHale, Robert Berger	Va.
A.B. 1932, A.M. 1933, Harvard University		McHaney, Joe Cornelius	
McEntee, John Cornelius	Idaho	A.B. 1915, Agricultural and Mechanical College of Texas	D.C.
McEntire, Fernie Josephine	N.Y.	McHugh, James Marshall	D.C.
McFadden, Douglas Howard	Md.	McHugh, John Joseph	Pa.
McFadden, William Dodge	D.C.	McHugh, John Richard	D.C.
McFall, Bryan Campbell	Va.	McInteer, Rachel Catharine	
McFarland, Barbara A.	Va.	B.S. 1933, Columbia University	D.C.
McFarland, Frank A.	Wa.	McIntosh, James Florio	N.Y.
McFarland, Mercedes Liberty	D.C.	McIntosh, Mary Forsythe	
McFarland, Thomas James	Va.	A.B. 1942, Albany State Teachers College, N. Y.	N.Y.
McFarlane, Robert Norton		McIntosh, Robert Arthur	Va.
B.S. 1928, United States Naval Academy	Tenn.	McIntyre, Carl Franklin	D.C.
McFolin, Roy Lee	Md.	McIntyre, Ernest Richard	Va.
McGandy, Edward Lewis	D.C.	McIntyre, Fred Louis	
McGann, Marjorie Louise	Ohio	A.B. 1948, The George Washington University	Kans.
McGannon, William Arthur	Va.	McIntyre, Joseph Alexander	Mont.
McGavock, Martha Pierce		McIntyre, William G.	Va.
B.S. in Ed. 1941, Madison College	D.C.	McIvor, Lillie Mae	
McGee, Charles Edward	Ill.	B.S. 1936, Radford College	Minn.
B.S.E. 1934, Northern Illinois State Teachers College		McKay, Cameron Lawrence	N.I.
McGee, Hilis	D.C.	McKay, Fred James	D.C.
McGeorge, Henry Hand	Okla.	McKay, Joseph Patrick	Pa.
B.S., A.M. 1911, Oklahoma Agricultural and Mechanical College		McKay, Samuel Allison	W.Va.
M.Ghee, John Rutledge, Jr.	Va.	McKee, Kemper Sherwood	Va.
M.Ghee, William Morrow	D.C.	McKee, Laurin Annette	Conn.
A.B. 1947, The George Washington University		McKeehan, John Badger	N.I.
M.Gill, George	Md.	McKeel, Charles Baynor	Va.
A.B. 1945, Furman University		McKeever, Kenneth Francis	
McGinn, Francis Hugh	D.C.	McKelway, Benjamin Mosby, Jr.	D.C.
McGinnis, Norman Francis, Jr.	W.Va.	B.S. in M.E. 1947, Lafayette College	
McGinnis, Robert Allen	D.C.	McKelway, William Prentiss	
McGinnis, Florence Marie	D.C.	A.B. 1943, Washington and Lee University	Ala.
McGirk, Donald Millard	Pa.	McKendrick, James Hendon	D.C.
McGivern, Patricia Louise	Calif.	McKenna, Mary Patricia	Md.
McGlashan, Robert Charles		McKentie, Lawson Morell	
A.B. 1916, University of California	D.C.	B.S. 1934, A.M. 1938, The George Washington University	Va.
McGlockrick, Joseph Edward	Va.	McKeon, Alfred Jerome	Va.
McGonagle, Joseph David		McKeon, Matthew Bernard	Va.
		McKeown, Thomas Charles	D.C.
		McKeown, William Leigh	

McKinley, Alfred Machell	D.C.	McNairy, Wyatt Donald	Conn.
McKinley, Francis	Utah	B.S. 1943, Cornell University	
McKinley, Thomas William	D.C.	McNally, Marietta Bortz	Pa.
McKinney, Kenneth Gordon	Md.	B.S. 1947, Temple University	
McKinnie, William	N.D.	McNally, Marjorie Phellis	Va.
McKittrick, Harry C.	Kans.	McNally, Patronienne Isabel	Va.
A.B. 1943, Park College		McNamara, William Joseph	Conn.
McKnight, George William	Md.	McNamee, Gilbert Wilson	Va.
McKnight, Michael J.	D.C.	McNamee, Patience E.	Nev.
McKoon, Joan Patricia	Tex.	A.B. 1944, Immaculate Heart College	
McLain, Edward Phillip	D.C.	McNaney, William Edward	Md.
McLaren, Kenneth Manson	D.C.	McNaughton, Joseph	Ohio
McLaren, Margaret Campbell	D.C.	McNeil, George Elroy, Jr.	Md.
McLaughlin, Arthur Ellsworth	N.D.	A.B. 1942, The George Washington	
A.B. 1939, North Dakota State College		University	
McLaughlin, Florence Westcott	Va.	McNeill, John Joseph	D.C.
B.S. 1931, Michigan State Normal		McNelis, James Ralph	W.Va.
College		McNemar, Eilda Louise	Va.
McLaughlin, John Francis	Conn.	McNickle, John David	D.C.
A.B. 1944, Trinity College		McNickle, Thomas Francis	D.C.
McLaughlin, Robert Hughes	Pa.	McNiff, Philip Aloysius, Jr.	N.Y.
McLaughlin, Russell L.	Ind.	McNulty, Joseph John	Pa.
McLaughlin, Virginia A.	Md.	McNulty, Olive Ferne	D.C.
B.S. 1948, Catholic University of		McNulty, Philip Lambert	D.C.
America		McNulty, Rose Marie	Ohio
McLaughlin, William Francis	Va.	McNutt, Richard Alexander	D.C.
A.B. 1943, Swarthmore College		McPhail, Harvey Franklin	D.C.
McLaurin, Lillian Catherine	Miss.	McPhail, John Finley, Jr.	Tenn.
A.B. 1937, LL.B. 1930, Vanderbilt		McPhail, Walter W.	Ill.
University		McPhee, Marvel Frances	D.C.
B.S. in L.S. 1941, Peabody Institute		McPherson, Clara Alyce	Ohio
of the City of Baltimore		McPherson, James Willis	Nehr.
McLaurin, Turner Sheppard	Miss.	McPherson, Trent Otho, Jr.	Ohio
B.S. 1945, Mississippi College		McPhiliamy, Harry Simpson, Jr.	Iowa
McLean, Charles Graham	N.C.	A.B. 1947, The George Washington	Pa.
A.B. 1948, The George Washington		University	
University		McQueary, Dennis Everett	D.C.
McLean, Evelyn Lane	Va.	McQueen, Robert Keith	Iowa
McLean, John Churchill	Ala.	A.B. 1944, The George Washington	
McLean, W. West	D.C.	University	
McLeer, Hilda Doris	D.C.	McQuie, Robert Glenn, Jr.	Ky.
McLees, John Skelton	Ark.	McRae, John Edwin	Mich.
McLeod, William Earl	D.C.	B.Ch.E. 1948, University of Detroit	
McLernon, Franklin Dean	D.C.	McRae, Luther Cecil	Va.
McLoughlin, Christopher James	N.Y.	A.B. 1927, M.S. in Ed. 1928, Duke	
McLoughlin, Donald Keith	Mo.	University	
B.S. 1948, The George Washington		McRory, William Francis	Ga.
University		McSow, Clovis Fred	Okla.
McLynn, James Michael	D.C.	McSweeney, Charles Anderson	Colo.
McMahon, Homer Albert	Md.	A.B. 1940, University of Colorado	
McMahon, Kathryn Mary	N.Y.	McTiernan, Charles Edward	N.Y.
McMahon, Sara Ryan	D.C.	B.S. in E.E. 1941, University of	
McMahon, Thomas Anthony	N.Y.	Alabama	
McMakin, William Howard	D.C.	McTiernan, Jeffrey	Va.
McManas, Jean	Wyo.	McTighe, Mary Elizabeth	D.C.
LL.B. 1940, LL.M. 1941, National		B.S. 1936, College of New Rochelle	
University Law School		McWhirt, Joseph Russell	D.C.
McMann, Phyllis Maria Rebecca	Maine	A.B. 1948, The George Washington	
McMann, Robert Case	Va.	University	
McManus, Louise Kessler	D.C.	McWhorter, Harry Stanley	D.C.
McMeel, John Wallace	Md.	Mead, Lowell Dale	Va.
McMillan, Robert Hampton	D.C.	Meador, Norword A.	W.Va.
McMullen, Thomas Richard	D.C.	B.S. in C.E. 1934, Virginia Military	
A.B. 1946, The George Washington		Institute	
University		Meadows, Richard Carl	D.C.
McMullen, William John	N.Y.	Meadows, Waldene Hastings	Va.
McMurray, Cecil Robert	Md.	Means, Richard Oscar	Tenn.
McMurray, Delzell B.	Va.	Mears, John Stephen, Jr.	Ind.
McMurray, Hazel Albertine	S.C.	Mease, Josephine Ida	D.C.
McNabb, Gertrude Elliott	D.C.	Mechling, James Elliott	D.C.
A.B. 1947, The George Washington		B.S. 1940, Haverford College	
University		Mechling, Mary Margaret	D.C.
		Medic, Radmila Ilic	D.C.

Medina, Armando	D.C.	Merck, Mary Christine	Ga.
Meehan, Robert Howard	Va.	Mercogliano, Charles Eugene	D.C.
Meeker, John Harbeck, Jr.	N.J.	Mercogliano, Victor Mario	D.C.
A.B. 1940, Drew University		Mercurio, Elmer Louis	D.C.
Meekins, Marjorie S.	D.C.	Meredith, Ellis Edison	D.C.
A.B. 1927, University of Toronto		A.B. 1947, University of Chicago	Ill.
Meekins, William Lawrence	N.C.	Meredith, James Thomas	N.Y.
Meese, Kenneth Jordan	Md.	Merendino, John Jerome	Pa.
Megan, Frances Patricia	Ill.	Merkel, Luther Daniel	D.C.
A.B. 1941, University of Chicago		Merker, Mary Helen	N.J.
Mezella, Ella	Pa.	Merlino, Ralph James	Tex.
Meigs, James Horace	Okla.	Meroney, Louis Roy	Ill.
Mehbod, Ahmed	D.C.	Meroney, Thomas Nelson	
A.B. 1916, A.M. 1937, University of Paris		B.S. 1930, M.S. 1932, Kansas State College of Agriculture and Applied Science	
Mehlhopf, John Frederick	D.C.	Merrell, Richard Yates	D.C.
Mehlman, Benjamin	N.Y.	Merrell, Robert Franklin	Okla.
A.B. 1937, Brooklyn College		Merrell, Virginia	D.C.
Meier, Albin Richard	Md.	Merrett, Gladys May	Wash.
Meier, Frederick Peter	N.Y.	A.B. 1943, University of California at Los Angeles	Mich.
Meier, Robert Willy	Va.	Merrick, Eleanor Congdon	
Meier, William Edward	N.Y.	A.B. 1926, Radcliffe College	Va.
Meigs, Edward Douglas	Ill.	Merrifield, Marian Hansen	D.C.
Meili, Shirley Jean	Kans.	Merrill, Nancy Elizabeth	D.C.
Meirowitz, Morris	D.C.	Merritt, Arthur Donald	Va.
Meiselman, Sherman Morton	D.C.	Merritt, Earl Arthur	D.C.
Meiselman, Sumner	Va.	Merritt, Everett Laverne	Va.
B.S. in M.E. 1940, Worcester Polytechnic Institute		Merritt, Hobart Whitten	D.C.
Meisels, Henry Leonard	D.C.	Merry, Helen Virginia Lee	
Meisels, Milton	D.C.	A.B. 1941, College of Wooster	D.C.
A.B. 1938, University of Wisconsin		Merwin, John Chester	Conn.
Meissner, Charles Robert	D.C.	Merwin, John David	
Meisner, Paul	D.C.	B.S. 1943, Yale University	Ohio
Melheim, Arnold Curtis	D.C.	Meryld, Marjorie Ann	N.Y.
Mellen, Robert David	D.C.	Mesher, Samuel	D.C.
Mellerup, Dewey William	Va.	Mesnard, Melvin L.	Siam
Mellinger, Harry Albert	D.C.	Mesommons, Kanit	
Mellington, Malcolm	D.C.	B.S. 1937, Chulalongkorn University	Va.
Mellor, Carol Krause	D.C.	Messer, Barbara Loraine	Md.
Mellor, John Edward	D.C.	Messerly, Pauline May	Va.
A.B. 1943, The George Washington University		Messick, Sarah Mapp	N.Y.
Melnick, Doria Reinhardt	D.C.	Messing, Nadia Sybil	D.C.
Melnick, Jack Lawrence	Va.	Mesteky, Estelle Ross	N.Y.
Meloe, Torleil	N.Y.	Metalitz, Stanley	
A.B. 1947, A.M. 1948, Columbia University		A.B. 1939, College of the City of New York	D.C.
Meloy, John Arthur	Md.	Metaxatos, Jerry V.	D.C.
Melrod, Miriam Kraemer	D.C.	Metcalfe, Earle Ellsworth	
A.B. 1946, Connecticut College		B.S. 1931, M.D. 1935, Loyola College	D.C.
Melton, Caleb Wilson	N.C.	Metcalfe, Mildred	Va.
Melton, Elizabeth	Va.	Metz, Grace Elizabeth	N.Y.
Melvin, Flavell Bryan, Jr.	Va.	Metz, Harold	
Melvin, Harry Davis	Va.	A.B. 1947, Brooklyn College	Minn.
Melvin, Herbert Clyde	Va.	Metzger, Kirk Oliver	Pa.
Melvin, Mary Louise	N.C.	Metzger, Clyde Christian	
Mencher, Jordan Ronald	D.C.	B.S. 1948, Pennsylvania State College	Pa.
Mendelsohn, Sydney Henry	Pa.	Metzger, Heloise Michaele	Va.
Mendelson, Michael	N.I.	Metzger, Joseph Francis	Ky.
Mendenhall, John Wilson	Ohio	Meuth, Geoganna	Nebr.
Mendenhall, Margaret Herrilyn	Tex.	Meyer, Ardo Xanar	Md.
Menelee, Karl Donald	D.C.	Meyer, Bertha Marie	D.C.
Mensch, Herbert	D.C.	Meyer, Charles Elizabeth	Wis.
Menter, Martin	N.Y.	Meyer, Elmer Ephraim, Jr.	D.C.
A.B. 1937, L.L.B. 1939, Syracuse University		Meyer, Hanny	Va.
Mercer, Hallie Nell	Tex.	Meyer, Leo Herbert	Tex.
B.S. 1916, M.S. 1942, East Texas State Teachers College		Meyer, Lucille W.	Mass.
Mercer, Joseph Jackson, Jr.	Ga.	Meyer, Myrtle Isabelle	Va.
A.B. 1948, Emory University		B.S. 1943, Rhode Island State College	Md.
Merchant, Edward Joseph	D.C.	Meyers, Raver Henry	Ark.
		Meyer, Raymond T.	
		Meyer, William Frederick	

Meyering, Catherine Cecelia A.B. 1930, Seton Hill College	N.Y.	Milburn, Chester Franklin	Md.
Meyers, Beverly Anne	S.D.	Milburn, George Ernest	D.C.
Meyers, Daniel	N.Y.	Miles, Chester Ellsworth	D.C.
Meyers, Hugh Truman	D.C.	Miles, Edward Michael	Wash.
Meyerson, Herbert	N.Y.	B.S. in E.E. 1930, University of Washington	
Meyrowitz, Alvin Abraham A.B. 1940, Cornell University M.B.A. 1941, New York University	Md.	LL.B. 1935 Columbia University	
Meyrowitz, Irving	Md.	Miles, Kenneth Penie	D.C.
Meyrowitz, Leon	Md.	Miles, Nelle H.	Va.
Michael, Arnold Hugh	D.C.	B.S. in Ed. 1926, Ohio State University	
Michael, Irving	D.C.	Miles, Walter Leonard, Jr.	D.C.
Michael, Jerrold Mark	D.C.	Miletich, Mathew John	D.C.
Michaelis, Edgar	D.C.	Mileur, Alfred Donald	Okla.
Michaelis, Bernice	D.C.	Miley, Catherine Louise	Md.
Michaels, Roslyn	D.C.	A.B. 1943, Trinity College	
Michaels, Walter C. B.S. in A.E. 1936, New York University	Md.	Milfelt, William Benjamin	Mo.
Michaelson, Ruth G.	Mich.	Miltner, Gustave David	D.C.
A.B. 1944, The George Washington University		Millan, Milton Benjamin	D.C.
Michaud, Lewellyn Richard	D.C.	Miller, Adelbert Ellsworth	Md.
Michael, John Carl	Va.	Miller, Albert	Mass.
B.S. 1940, United States Naval Academy		Miller, Allen Howard	Iowa
Michelbach, Esther Cain	Va.	Miller, Andrew John	N.Y.
B.S. in Ed. 1941, Mary Washington College		Miller, Ann Margaret	Calif.
Micheljitch, Edward	Va.	Miller, Bernard Leo	Mich.
Micheljitch, Herman John	Va.	Miller, Betty Marie	D.C.
Michels, Ruth Marie	Iowa	A.B. 1947, The George Washington University	
Michels, Vern Edward	Mont.	Miller, Boulton Bainbridge	Ill.
Michelsen, Cleo Phyllis	D.C.	A.B. 1948, The George Washington University	
A.B. 1943, The George Washington University		Miller, Caroline Parkinson	D.C.
Michelsen, Paul Frederick	D.C.	B.S. 1943, The George Washington University	
Michelson, Samuel	N.Y.	Miller, Carolyn Ann	Iowa
Michie, James Reginald	D.C.	Miller, Charles Robert	N.Y.
Michini, Louis Joseph	Del.	Miller, Christine H.	D.C.
A.B. 1941, University of Delaware		B.S. 1940, Middle Tennessee State College	
Michols, Raymond Martin	Wis.	Miller, Dayle Nate	D.C.
Mickelson, Arlene Joanne	Va.	Miller, Elaine Sylvia	N.Y.
Mickelson, Frank Ray	Va.	Miller, Elinora LaVerne	Pa.
Mickelson, Pauline Edith	Wash.	Miller, Elizabeth Jane	N.Y.
Mickler, Thomas Albert	Pa.	A.B. 1943, New Jersey College for Women	
Middlemas, Burton Yeager	Tenn.	Miller, Felicia Mary	D.C.
Middleton, Edward Duncan, Jr.	D.C.	A.B. 1946, A.M. 1948, The George Washington University	
B.S. 1944, United States Coast Guard Academy		Miller, George Elmer	Tenn.
Middleton, Glenn Arthur	D.C.	A.B. 1948, Texas Christian University	
Middleton, Joseph Schriver	D.C.	Miller, George William	Ohio
Middleton, Lawrence Alvin	Md.	Miller, Gerald Joseph	D.C.
Middleton, Norah Secombe	D.C.	Miller, Glen Gaylord	Calif.
A.B. 1946, Connecticut College		Miller, Grant William	Va.
Middleton, William Wylie, Jr.	Va.	Miller, Harry Stanford	D.C.
B.S. 1939, Virginia Military Institute		Miller, Helen Meibert	Md.
Midland, Marvin Gilbert	Ill.	B.S. 1942, Mary Washington College	
Mievey, William Clair	Va.	Miller, Henry Arnold	Ind.
Miffin, Catherine Anne	D.C.	A.B. 1941, Indiana Central College	
Mirdol, David	D.C.	Miller, Herbert J.	Ohio
Mizuel, Geronimo	Va.	Miller, Herbert John, Jr.	Minn.
Mihall, John Joseph	Pa.	A.B. 1948, The George Washington University	
Mika, John Isidore	N.Y.	Miller, Herman P.	Va.
B.S. 1942, St. John's University		B.S.S. 1942, College of the City of New York	
Mikus, Isabelle Mary	D.C.	Miller, Homer Ralph	Md.
B.S. 1946, Simmons College		Miller, Howell Douglas	D.C.
Milam, Robert Howard	D.C.	D.V.M. 1941, Agricultural and Mechanical College of Texas	
Milano, Dominick Joseph	N.Y.	Miller, James Robert	Md.
Milazzo, Valentine Charles	D.C.	Miller, Jean Agnes	D.C.
Milbourn, Louise	D.C.	Miller, Jennie Rock	Va.
R.D.H. 1946, Columbia University			

Miller, John Alexander	D.C.	Millia, Hugh Lowell, Jr.	Tex.
Miller, John Charles	Va.	B.S. in E.E. 1945, Southern Methodist University	
B.S. in Ed. 1948, Oswego State Teachers College, N. Y.	N.Y.	M.S. in E.E. 1947, University of Texas	N.Y.
Miller, Joseph Sheldon	Md.	Millman, Max Roland	D.C.
Miller, Keith High	Okla.	B.S. 1937, College of the City of New York	
Miller, Kenneth Ward	Fla.	Millner, Elliott	D.C.
B.S. in E.E. 1940, University of Oklahoma	D.C.	A.B. 1948, The George Washington University	
Miller, LaVerne Sayre	Calif.	Mills, Annie Louise	D.C.
Miller, Lawrence H.		Mills, Barbara Elizabeth	Va.
Miller, Leland Henry		Mills, Carl	D.C.
A.B. 1942, State College of Washington	W.Va.	Mills, Clara Paige	Md.
Miller, Leonard Lee	Va.	Mills, George F.	N.Y.
Miller, Lewis Baruch	Va.	Mills, Geraldine Harmon	D.C.
Miller, Lowry Morton		B.S. 1941, Buffalo State Teachers College, N.Y.	
A.B. 1948, University of California at Los Angeles	Ill.	A.M. in Ed., Columbia University	Va.
Miller, Lynn Harry	Mass.	Mills, J. Warner III	Ill.
Miller, Mary	Va.	Mills, James Roy, Jr.	
Miller, Maurice Myles		L.L.B. 1937, DePaul University	Va.
A.B. 1948, The George Washington University	Pa.	Mills, John Everett	D.C.
Miller, Melvin Eugene	D.C.	Mills, Katharine Jayne	D.C.
Miller, Norman Richard	La.	Mills, Mary Barbara	
Miller, Otin Columbus	Mass.	B.S. 1940, University of Pittsburgh	
Miller, Patricia Adele	D.C.	M.S. 1941, The George Washington University	Va.
Miller, Paul	D.C.	Mills, Ruth Elizabeth	D.C.
Miller, Paula	D.C.	Mills, Shirley Nickerson	Pa.
Miller, R. A.	Tex.	Millsop, Keith Duane	
Miller, Rachel Croft	Pa.	A.B. 1948, Grove City College	Md.
Miller, Ralph G.	Md.	Milos, John Francis	
Miller, Ralph Jewart	Pa.	A.B. 1931, Dartmouth College	
Miller, Ray Lambert	Va.	A.M. 1932, Columbia University	D.C.
B.S. 1936, Northwest Missouri State Teachers College	Mass.	Milto, William Edward	N.Y.
Miller, Reuben	D.C.	Minasian, George	Nev.
Miller, Richard Bellum		Miner, Verna Howard	
A.B. 1948, University of Maryland	D.C.	A.B. 1937, University of Denver	Pa.
Miller, Richard Eugene	Va.	Miner, Charles Paul	D.C.
Miller, Robert Earl	D.C.	Miner, Mary Jacquelyn	D.C.
Miller, Robert Edward	N.Y.	Miner, Newton Arthur	Md.
Miller, Robert Preston		Miner, Richard Leo	D.C.
B.S. in M.E. 1943, Cornell University	N.C.	Miner, Sherman Leman	N.D.
Miller, Robert Wayne	Md.	B.S. 1941, Kent State University	N.I.
Miller, Rodney Arthur		Miners, Marcelle Lorraine	D.C.
A.B. 1949, University of Pennsylvania	D.C.	Mines, Kenneth Seymour	Fla.
Miller, Roy Hamilton	Conn.	Minnery, Gladys Warner	N.Y.
Miller, Ruth Mary		Minnick, John Bradley	Tex.
B.S. 1943, Mary Washington College	D.C.	A.B. 1935, Amherst College	Wash.
Miller, Rutherford Bennett	D.C.	Minnick, Robert Charles	Va.
Miller, Sally Isabelle	D.C.	Minnick, Ray Parmelee	Md.
Miller, Samuel Duncan	N.Y.	Minor, Elizabeth Biggers	Va.
Miller, Seymour Marvin	N.Y.	Minor, Robert Center	D.C.
Miller, Sidney H.		Minor, Sophia Crouch	
B.S. 1940, New York University		Minton, George	
A.M. 1948, The George Washington University	Pa.	A.B. 1948, The George Washington University	Mich.
Miller, Theodora Arnold	Ohio	Mintz, Sidney	N.J.
Miller, Walter Henry	D.C.	A.B. 1938, Ohio University	
Miller, Walter Wallace	Pa.	Mirandon, Joseph Wilmer	Pa.
Miller, William Francis	D.C.	A.B. 1947, The George Washington University	
Miller, William Frederick	D.C.	Misch, Chilton Luther	D.C.
Miller, William Wilson	D.C.	A.B. 1948, The George Washington University	D.C.
Millian, Kenneth Young	D.C.	Misc, Raymond Winfield	Wn.
Millikan, John Charles	D.C.	Misek, Albert Joseph	
Milliken, Lewis Thurston	N.H.	Missey, Edward Gabriel	
A.B. 1943, Bowdoin College	Pa.	A.B. 1941, A.M. 1945, University of Wisconsin	
Milliren, Miriam Lucille			

Misfeldt, William Duane	Nebr.	Mogin, Bert	D.C.
Miskinis, Eleanor Ellen	D.C.	B.S. 1939, College of the City of	
Miner, Peggy Rose	Ky.	New York	
Mitchell, Americus Luis	Md.	Moglen, Norman	D.C.
A.B. 1945, Vanderbilt University		B.S. 1940, College of the City of	
Mitchell, Charles Bradford	D.C.	New York	
Ph.B. 1928, A.M. 1929, Wesleyan		Mognaz, Guy Victor	D.C.
College		Mogul, Rubin	Pa.
A.M. 1918, Ph.D. 1930, Harvard		A.B. 1948, Pennsylvania State College	
University		Mohagen, Edna Alice	D.C.
Mitchell, Clyde Albert	Va.	B.S. 1937, The George Washington	
Mitchell, Edward Alexander, Jr.	D.C.	University	
A.B. 1943, University of Virginia		Mohler, Jeanne Claire	D.C.
Mitchell, Ernest Eugene, Jr.	N.C.	Mohler, John Robbins	D.C.
Mitchell, Frank Paul	N.Y.	Mohler, Marvin Francis	Va.
B.S. 1929, United States Naval		Mohr, Paul James	N.Y.
Academy		Mohr, Rosamond Greenlee	Va.
Mitchell, Frank Raymond, Jr.	Va.	Moies, Ridgely, Jr.	D.C.
Mitchell, George Day	Md.	Molander, Jarl	Va.
B.S. 1935, Johns Hopkins University		Moleski, Josephine Barbara	Pa.
Mitchell, Jeannine Irene	Kans.	Molighano, Louise Mary	Mass.
Mitchell, John Lee	Fla.	Molinuro, Carman Joseph	D.C.
Mitchell, Marguerite Amy	Va.	B.S. 1944, Boston University	
Mitchell, Mary Christine	Ala.	Moller, Mathias Peter III	Md.
Mitchell, Mary Eleanor	D.C.	Mollick, Jean	Mo.
Mitchell, Mary Lynn	N.Y.	Molony, Charles	D.C.
Mitchell, Muriel Ann	Ohio	A.B. 1912, University of Georgia	
Mitchell, Nan	D.C.	Molony, Mary Moore	D.C.
Mitchell, Robert Cleo	Pa.	A.B. 1932, A.M. 1934, University of	
Mitchell, Robert Eugene	D.C.	Kentucky	
Mitchell, Robert Jouett	Mo.	Monaco, Dalio Hugo	Ohio
B.S. in A.E. 1943, Cornell University		Monahan, Stephen Thomas	N.Y.
Mitchell, Robert Laurie	Md.	Monchlovich, Mike	Va.
Mitchell, Robert Warren	Pa.	B.S. 1947, The George Washington	
Mitchell, Stanley John, Jr.	Ohio	University	
Mitlenes, Nickolas George	N.J.	Moncure, Samuel Pemberton	Va.
B.S. 1948, Seton Hall College		B.S. 1932, United States Naval	
Mitoma, Edwin Yoshito	Ohio	Academy	
B.S. in E.E. 1947, Case School of		Mondlock, Marguerite M.	Ill.
Applied Science		Mondschein, Earl Jay	Mich.
Miton, Philip	Va.	Monie, Don John	D.C.
B.S. in Ch.E. 1934, Catholic		Monier, John Baptiste	Pa.
University of America		B.S. 1941, University of Pittsburgh	
Mitzkowski, Walter Joseph	N.Y.	Monisera, Frank Daniel	N.J.
Mizell, Bryon Butter	Fla.	Monk, Charles Albert	Va.
Mizelle, Fenton Vivian	Md.	Monk, Gordon Vance	Ind.
Moan, Jeanne Corkhill	Pa.	Monlux, Andrew W.	Iowa
A.B. 1935, Seton Hall College		D.V.M. 1943, M.S. 1947, Iowa	
Modance, Walter Aaron	N.Y.	State College of Agriculture and	
B.S. 1938, College of the City of		Mechanic Arts	
New York		Monn, John Israel	Pa.
Modarelli, Edward Joseph	D.C.	B.S. in Ed. 1931, State Teachers	
Moder, Irving	N.Y.	College, Shippensburg, Pa.	
Modlin, Albert Jay	D.C.	Monreal, Ruth Helge	Fla.
B.S. 1948, The George Washington		Monroe, Carolyn Webb	D.C.
University		Monroe, Ernestine Louise	D.C.
Modlin, Philip Hodgins	N.C.	Monroe, John Anthony	Mich.
A.B. 1947, High Point College		B.S. 1935, Ferris Institute	
Moe, Albert Ferdinand	Calif.	Monsheimer, Louis Bertram	Va.
B.S. 1928, University of California		Monson, Albert Bardell	Va.
Moe, Alfred Brox	Va.	B.S. 1940, Brigham Young University	
Moe, Donald Jacques	Minn.	Montague, James Herman	Del.
B.S. 1943, United States Naval		Montague, William Eugene	Va.
Academy		Montalbano, Michael Salvatore	N.Y.
Moe, Stanley Kermit	Calif.	A.B. 1948, The George Washington	
Moebus, Charles, Jr.	Va.	University	
Moerman, Constance L.	Va.	Monteith, Alice Jean	Va.
A.B. 1936, The George Washington		Montgomery, Elizabeth Louise	D.C.
University		A.B. 1934, Centre College of	
Moffatt, Samuel John	D.C.	Kentucky	
Moffitt, Charles Samuel	S.C.	Montgomery, Joe Moore	Ala.
Moffitt, Meredith Elizabeth	Mexico		

Montgomery, John William Myers B.S. 1940, United States Naval Academy	D.C.	Mora, Emma Gladys Morales, Betty Jane Morales, Donald Chauncey	Uruguay Md. Md.
Montgomery, Richard Clemens Montgomery, Robert Hayes	D.C. D.C.	Moran, Andrew John Moran, Cecelia Alice	Pa. S.D.
Montgomery, Virginia L. B.S. in Ed. 1941, University of Cincinnati	Ohio	B.S. 1941, Northern State Teachers College	Va.
Montoya, Alfonso Theodore	N.M.	Moran, Charles Vincent	D.C.
Monyak, John George	Pa.	Moran, Frank Sheridan, Jr.	Conn.
Monzel, Lionel Vincent A.B. 1943, University of Michigan	Ill.	Moran, Leon James	Va.
Moody, Harold Abram, Jr.	N.Y.	Moran, Lowell A.	Md.
Moody, Horace Ray	Wash.	Moran, Robert Emmet	N.Y.
Moody, William Augustus	Tenn.	Moran, Terence Cornelius	Va.
Moore, John Eden	Va.	Moran, Terrance Lamar	Md.
Moon, Joan Marie A.B. 1943, University of Maryland	Md.	Moran, Thomas Francis B.Ch.E. 1939, New York University	N.J.
Moon, Thomas Jefferson, Jr.	Ala.	Mordas, George	N.Y.
Mooney, Albert Lee B.S. 1943, Washington College	Md.	Morehouse, Lucille Vivian	Fla.
Mooney, Mark Wendel	Md.	Moreland, Allen Barwick B.S. in B.A. 1938, University of Florida	
Mooney, Robert James B.E.E. 1943, Yale University	Conn.	A.M. 1943, Harvard University	
Moore, Alvin, Jr.	Ga.	LL.B. 1947, Georgetown University	Pa.
Moore, Boyd Guerry	D.C.	Moreland, Chester Martin	Iowa
Moore, Charles Clinton, Jr.	D.C.	Moreland, Helen Lucile	
Moore, Charles Lansdale	Va.	B.S. 1940, Iowa State College of Agriculture and Mechanic Arts	
Moore, Clifton Robert B.P.E. 1943, Springfield College	D.C.	A.B. 1948, The George Washington University	N.Y.
Moore, Donald Francis	Mass.	Moren, Clarence Gill	D.C.
Moore, Donnie McCoy, Jr.	Md.	Moreno, John A. B.S. 1930, United States Naval Academy	
Moore, Douglas Hamilton, Jr.	Md.	Morfit, John C., Jr. A.B. 1947, Duke University	Md.
Moore, Elmer Lee	Md.	Morgan, Antonia Bell A.B. 1936, A.M. 1945, Oxford University	Va.
Moore, Eugene Minton	Ala.	Morgan, Antonia Louise	D.C.
Moore, George Carlton, Jr. A.B. 1941, University of Maryland	Md.	Morgan, Arch Cleveland, Jr.	Va.
Moore, Henrietta S.	Ind.	Morgan, Billie B.S. 1936, State Teachers College, Farmville, Va.	Maine
Moore, Jack Alexander, Jr.	D.C.	Morgan, David Richard	Ky.
Moore, Jack Martin	Md.	Morgan, Don Earle A.B. 1948, The George Washington University	
Moore, Jesse Lee	D.C.	Morgan, Earl James	D.C.
Moore, Jesse Myatt	Ark.	Morgan, Edgar Donald	N.J.
Moore, Lussadel	Ga.	Morgan, Edward Tull	S.C.
Moore, Patricia Catherine	Va.	Morgan, Emory Alex, Jr.	Miss.
Moore, Patricia Mary	Va.	Morgan, Emory Alex, Jr.	Calif.
Moore, Pauline B.S. 1944, West Virginia University	W.Va.	Morgan, Emory Claude B.S. 1948, University of South Carolina	
Moore, Ray Clark	Vt.	Morgan, Frank Sayre A.B. 1930, University of Michigan	Va.
Moore, S. Reid	Md.	Morgan, Glenn Franklin, Jr.	Md.
Moore, Samuel Varick B.S. 1943, University of Maryland	D.C.	Morgan, John Edward	D.C.
Moore, Stella Davenport	Va.	Morgan, John Hamilton	Va.
Moore, Thomas Wesley	D.C.	Morgan, John William	W.Va.
Moore, Virgil Lytle A.B. 1941, Asbury College	Va.	Morgan, Louise K.	Va.
Moore, Virginia Carolyn	N.M.	Morgan, Madison Bruce	Md.
Moore, Virginia Worley	Va.	Morgan, Robert Elton	Tenn.
Moore, Waldo Hawthorne	Md.	Morgan, Robert Stone	Conn.
Moore, Ward John	Calif.	Morgan, Robert Stone	
Moore, Warren Lawrence	D.C.	Morgan, Walter Clifford, Jr. B.S. 1946, University of Connecticut	Ala.
Moore, William Albert	Va.	Morgan, Walter Lee	W.Va.
Moore, William Bonin	Calif.	Morgan, William Barnes A.B. 1943, West Virginia University	Md.
Moore, William Brigham B.S. 1930, United States Naval Academy		Morgret, Charles Oscar	W.Va.
Moore, Winnifred Ellis	D.C.	Morgret, Clarence Abner	Calif.
Moorhead, Joseph William A.B. 1948, American University	Va.	Morin, Joseph Everts Proctor	D.C.
Moorman, Mary Virginia	Okla.	Morison, Donald William	
Moose, Coy E., Jr.	Va.		
Moose, John Wadsworth B.S. 1946, Randolph-Macon College	D.C.		
Mopper, Kenneth Samuel	D.C.		

Moritz, Lorraine Ruby	Wis.	Moskowitz, Margaret M.	D.C.
Morledge, Charles Calvin	Mont.	Moskowitz, Milton Sam	D.C.
Morledge, Patricia H.	D.C.	Mosley, Fred Millett	Va.
Morley, William MacNeil	D.C.	B.S. in C.E. 1931, Rensselaer	
Morlock, Harry Kenneth	D.C.	Polytechnic Institute	
Mornone, Augustus James	Va.	Mosman, Kenneth Freeman	Mass.
Morong, Francis Goodwyn	Tex.	Moss, Helmi Amanda	D.C.
B.S. 1935, University of Maine		B.S. 1933, State Teachers College,	
Moroz, Walter Stanley	Pa.	Framingham, Mass.	
Morris, David Daniel	La.	Moss, Robert Cramton	Mass.
B.S. 1941, Louisiana State University		Moss, Sidney J.	N.Y.
Morris, Douglas Cockerille	Va.	A.B. 1948, The George Washington	
Morris, Elizabeth L. M.	N.J.	University	
B.S. 1933, New Jersey College for		Mossman, Paul Burrell	Calif.
Women		A.B. 1945, University of California	
Morris, Harriet Jones	La.	Mosteller, Bertha Alene	N.C.
Morris, Hayden	Vt.	Mostow, Isadore	D.C.
Morris, James Peter	Conn.	Mott, Richard Henry, Jr.	D.C.
Morris, James Philip	N.C.	A.B. 1947, The George Washington	
Morris, John Michael	D.C.	University	
Morris, Lewis Dawson	Va.	Mottrani, Harold Richard	N.Y.
Morris, Marian Miles	Va.	Moul, George Edward, Jr.	D.C.
Morris, Owen Hughes, Jr.	D.C.	Moulis, Edward Jean	D.C.
Morris, Philip Marlin	Miss.	B.S. 1935, Louisiana Polytechnic	
Morris, Robert Abram	D.C.	Institute	
Morris, Robert Beverly	D.C.	Moulthrop, Henry Kenneth	Va.
B.S. in C.E. 1926, University of		A.B. 1934, Pennsylvania State College	
North Carolina		Mountain, Robert Emmett	D.C.
Morris, Robert Earl	Va.	Moure, Rupert Francis	Md.
Morris, Ronald Eugene	D.C.	Mourning, Henry Lee	D.C.
Morris, Thomas Patrick	Mass.	Mousley, Joseph Charles	Md.
Ph.B. 1948, Providence College		Moutros, Demetra Periclis	D.C.
Morris, Una Rita	D.C.	Mowers, Robert Dean	D.C.
Morrison, Basil Thomas	Calif.	Mowl, Dorothy Lucille	Pa.
Morrison, Carson Carmon	Md.	Mowry, Boardman Shaw	D.C.
Morrison, Claude Oliver	Nebr.	B.S. in C.E. 1940, Purdue University	
B.S. in Ed. 1933, University of		Moy, Clarence	D.C.
Nebraska		B.S. 1938, University of Missouri	
Morrison, Eva Jean	Va.	Moy, Edwina	D.C.
Morrison, Howard Irwin	N.Y.	Moy, Ernest Don	D.C.
Morrison, James Brown, Jr.	D.C.	Moy, Taoy Kin	Calif.
Morrison, James Robert	D.C.	Moyer, Robert Daniel	Pa.
Morrison, Julian Knox	D.C.	Moyerman, Ruth Jean	N.J.
Morrison, Lillian Amma	D.C.	Moynihan, Francis Joseph	D.C.
Morrison, Marilyn Jeanine	Va.	Moynihan, William Trunbull	Mass.
Morrison, Marilyn Ray	Ky.	Muchnick, Abraham Herzbel	D.C.
Morrison, Mary Elizabeth	Pa.	Muck, William Leland	Va.
Morrison, Ralph Robert	D.C.	Mudd, Roger Harrison	D.C.
Morrison, Robert Reid	D.C.	Mueller, Peter Klaus	D.C.
Morrison, William Llewelyn	N.J.	Mulson, Pauline	Va.
Morrison, William Robert	Maine	Mugmon, Alvin Leonard	D.C.
Morrissey, Raymond	D.C.	Muhonen, Oliver Adolph	Minn.
Morrow, Christopher Mollen	Md.	Muir, Donald Belden	D.C.
Morrow, Mary Loy	Pa.	Muirhead, William, Jr.	Pa.
Morrow, Walter Franklin	Md.	Mukheyiu, Narayan Chandra	D.C.
Morse, Breton Beauregard	D.C.	Mulderis, Gerald Edward	D.C.
Morse, Marjorie Lee	D.C.	Mulderig, Viola	N.Y.
Morter, Norman Alvey	Pa.	Mulderrig, Martin Joseph, Jr.	N.Y.
Morthimer, Marvin Wilbert	D.C.	B.S. 1940, United States Naval	
Morton, Frank Reginold	Md.	Academy	
A.B. 1938, Thiel College		Mulhall, Francis Joseph, Jr.	D.C.
Moscou, Bertha Pearl	D.C.	Mulhearn, Rupert Albert	R.I.
Moseley, Elizabeth Gordon	Fla.	Mulkey, Thomas Charles	D.C.
A.B. 1920, Florida State College for		Mull, John Clifford	N.C.
Women		Mullarkey, James Patrick	Ill.
B.S. in L.S. 1939, University of		Mullen, Lyle Ray	D.C.
North Carolina		Mullen, Patricia Anne	D.C.
Moseley, James Cleyburne, Jr.	D.C.	Mullen, Walter Raymond	Va.
Moseley, Martin Winn, Jr.	D.C.	B.S. in Ed. 1939, Illinois State	
Moseley, Virgie Pastel	Ga.	Normal University	
Moser, Ben	Va.	Muller, Raymond Carl	D.C.
Moses, Harry M.	Md.	Mullet, Ardill George	D.C.
Moses, Stella Margot Neeson	D.C.	Mullin, Barbara Y.	D.C.

Mullin, Eugene Francis, Jr. A.B. 1945, Brown University	D.C.	Murphy, Patricia	D.C.
Mullin, Helen Marie	D.C.	Murphy, Robert Bernard	Wis.
Mulling, Jack	D.C.	Murphy, Thomas Harry	Ind.
Mullinnix, Allen Prather B.S. 1910, United States Naval Academy	Ind.	Murphy, Thomas Joseph B.S. 1946, Franklin and Marshall College	D.C.
M.S. 1928, Yale University		Murphy, William Malcolm	D.C.
Mullins, Elwood Hatcher	Md.	Murphy, William Martin	N.J.
Mullins, Jessie Edith	D.C.	Murray, Charles Ambrose	Mass.
Mullins, Walter Chesterfield	Ky.	Murray, David Hugh	Tex.
Mullins, William Stanley	Tex.	B.S. 1930, East Texas State College	
A.B. 1948, University of Texas		Murray, Helen Holden	W.Va.
Mulloy, William P.	Pa.	A.B. 1926, Marietta College	
Mulquin, Donna-May Sparks	D.C.	Murray, Herbert Henry	Md.
A.B. 1917, The George Washington University		B.M.E. 1948, The George Washington University	
Munan, Louis Pat	D.C.	Murray, James Andrew, Jr.	S.C.
A.B. 1948, The George Washington University		Murray, Malcolm Holden	W.Va.
Munchberg, Leonard Joseph	D.C.	Murray, Richard Charles	D.C.
Munchmeyer, Charlotte	Va.	Murray, Robert Bruce	D.C.
B.S. 1942, Wilson Teachers College		Murriah, Everett Clark	Ohio
Munekivo, Aza	Calif.	A.B. 1947, Harvard University	D.C.
Munger, Lorraine Junette	Va.	Muse, Claude Revere, Jr.	Pa.
A.B. 1948, The George Washington University		Muse, George Read	Va.
Munn, John Irvin	Pa.	Mushen, Robert Linton	
B.S. 1948, Indiana State Teachers College		B.S. 1934, Oregon State College	Va.
Munna, Constance Louise	D.C.	Musick, Eliza Alice	D.C.
Munro, Catherine Chenoweth	Md.	Musselman, Ashby Milton	
Munroe, Alfred A.	Kans.	B.S. 1947, University of Maryland	Ill.
A.B. 1946, Municipal University of Wichita		Musser, Caroline Helen	Wash.
M.S. 1947, Syracuse University		Musser, Elia Bitner	
Munson, Thomas Richard	D.C.	B.S. 1923, University of Washington	W.Va.
Munter, Emil Junior	Mich.	Musser, George Allen	D.C.
Munves, William	N.Y.	Mustard, Jay Ronald	D.C.
A.B. 1932, College of the City of New York		Musy, Edwin Raymond	D.C.
L.L.B. 1936, New York University		Mutchler, Thomas Edward, Jr.	Pa.
Murchison, David Claudius	D.C.	Myer, Lloyd Zuck	Va.
Murdock, Ben Joseph	Va.	Myers, Billie Ray	Va.
Murdock, James Henry	D.C.	Myers, Charles Frank	D.C.
Murdock, Joseph Boyd	Md.	Myers, George Albert, Jr.	Pa.
Murdock, Robert Barnard	D.C.	Myers, George Robert	Md.
Murillo, Guisto Guerreto	N.M.	Myers, Gloria Lucille	
Murph, Daniel Shuford, Jr.	D.C.	B.S. 1948, University of Maryland	D.C.
Murphey, Elton Ira, Jr.	Tenn.	Myers, Hilda Sally	D.C.
Murphey, Randolph Clay III	D.C.	Myers, Jacob Eugene	Va.
Murphy, Barbara Fuller	D.C.	Myers, John Dallas, Jr.	D.C.
Murphy, Charles Patrick	Md.	Myers, Marian Pilton	
B.S. 1916, Webb Institute of Naval Architecture		A.B. 1927, Bryn Mawr College	D.C.
Murphy, Eleanor Marguerite	D.C.	Myers, Mildred Ruth	D.C.
Murphy, Frank Joseph	N.Y.	Myers, Paul	Pa.
Murphy, Glenn William	D.C.	Myers, Richard Ira	Pa.
Murphy, James Palmer	Va.	Myers, Thad Prentice	D.C.
Murphy, Joan Ann	D.C.	Myers, Thomas Ellsworth	Md.
Murphy, John Joseph	D.C.	Myers, Virginia Anne	
B.S. 1947, University of Scranton		Myers, William J. E.	
Murphy, John Joseph, Jr.	D.C.	A.B. 1933, Ohio State University	D.C.
B.S. 1943, University of Maryland		A.M. 1938, University of Pittsburgh	D.C.
Murphy, Joseph Alexander	D.C.	Myerson, Jacob Myer	Burma
Murphy, Joseph Logan	Va.	Myette, Thomas Waldo	
Murphy, Joseph Patrick	Va.	Myint, Ma Khin	
Murphy, Lawrence Marsielles	D.C.	A.B. 1946, University College, Bangkok	W.Va.
Murphy, Lawrence Patrick	D.C.	Myles, Thomas Eberly	
Murphy, Marion Emerson	Va.	A.B. 1947, West Virginia Institute of Technology	Ind.
B.S. 1922, United States Naval Academy		Mynsberge, Maurice	D.C.
Murphy, Martin T.	Va.	Myrianthopoulos, Ntinos Cleodvorsov	N.Y.
		Myrick, Donald Marshall	D.C.
		Myrick, Joe H.	

N			
Nacht, David Joseph	D.C.	Neill, John Hamilton, Jr.	Tex.
Nacht, Frank	D.C.	A.B. 1947, A.M. 1940, Tulane University	
Nachtigall, Juliana	Va.	Neiz, Arthur Charles	Conn.
Nachtsheim, John J.	N.J.	Nelson, Betty Ann	Conn.
B.S. 1947, Webb Institute of Naval Architecture		Nelson, Carl August, Jr.	D.C.
Nadeau, Frances N.	Tex.	Nelson, Donald Sell	N.J.
Nadel, Sidney	D.C.	Nelson, Dorothy Christine	Va.
Nader, William, Jr.	D.C.	Nelson, Edward Monroe	Va.
Naecker, Priscilla Margaret	D.C.	Nelson, Erwin Ellis	
Naeher, Willis Earl	D.C.	A.B. 1914, A.M. 1916, Ph.D. 1920, University of Missouri	
Naeble, Henry Emil	Md.	M.D. 1926, University of Michigan	
Nagy, Alex Paul	Pa.	Nelson, Herman Francis, Jr.	Mass.
Nahas, George Frederick	Conn.	Nelson, James Olmstead	Fla.
Nahm, Doris	D.C.	Nelson, Kermit Chester	Minn.
Nahme, Leonard Lee	D.C.	Nelson, Marjorie Bonnie	D.C.
Naiden, Eulaine	Va.	Nelson, Mary Jane	Fla.
B.S. 1941, University of Idaho		Nelson, Raymond Edward	Va.
Nail, Edwin Starkey	Okl.	Nelson, Richard Dale	Nebr.
Nakashima, Sumio	Hawaii	Nelson, Robert Ferdinand	Mich.
Nall, Berry Hudson, Jr.	Md.	Nelson, Robert George	D.C.
Nalla, John Willard, Jr.	Md.	Nelson, Sally True	Va.
Namisanak, Stephen	N.Y.	Nelson, Stuart David	Conn.
Nance, Ophir Carmal, Jr.	Va.	A.B. 1948, The George Washington University	
Naper, Robert Erwin	Oreg.	Nemes, Michael Stephen	N.Y.
Napolitano, Benjamin	D.C.	Nemeth, Joe	Mo.
Naquin, Frances Davis	Va.	Nemir, Fred Robert	Tex.
A.B. 1925, The George Washington University		A.B. 1945, University of Texas	
Nargizian, Andrew Antranig	N.Y.	Nernberg, Ralph Amos	Fla.
Nargizian, Edward Arsen	N.Y.	Nershi, Michael Thomas	N.J.
Narrow, Artis Medlin	N.C.	Nesbitt, Betty Rae	Va.
Narrow, Wiley	D.C.	Nesbitt, John	D.C.
A.B. 1935, Abilene Christian College		Nesbitt, Mary Katherine	Kans.
Nash, Ruth Crandon	R.I.	A.B. 1933, The George Washington University	
Nasou, John Peter	Md.	Neasline, John Francis, Jr.	Va.
A.B. 1947, University of Minnesota		Ness, Juell R.	S.D.
Nathan, Bernard	D.C.	Nestor, Rosalie Eleanor	D.C.
Naughton, Joseph Patrick	D.C.	Nethercott, Mary Elizabeth	N.Y.
Nauman, Charles Anton	Va.	Netterville, Victor Samuel	Ind.
Naumann, Bolton Francis	Md.	A.B. 1947, Indiana University	
Navratil, Charles Nossick	Md.	Nettings, Thomas Blackstone	Va.
Naylor, Allen Clark	Md.	B.S. 1937, State Teachers College, California, Pa.	
Naylor, Guy Rodgers, Jr.	Md.	Neudorfer, Lawrence Sterling	N.Y.
Neach-Alphonse, Alexander	D.C.	Neufeld, Arthur Irvin	D.C.
Neafsey, John Francis, Jr.	Mass.	A.B. 1948, The George Washington University	
Neal, Ralph Bennett	Calif.	Neuhauser, Charles William	D.C.
Neale, James Matthews	D.C.	Neuhauser, Joan Lawrence	D.C.
Nealon, James Dinneen	Va.	Neuhauser, Robert Phillips	D.C.
Nearman, Richard Edward	D.C.	Neukark, Alexander	D.C.
Neary, Edward Francis	D.C.	Neumann, Richard K.	Md.
Neary, John Matthew	D.C.	Neureither, Lawrence Anthony	Md.
Neary, Joseph Aloysius	D.C.	B.S. in E.E. 1940, New York University	
Nee, William John	Va.	Neuss, Cecile	D.C.
B.S. 1938, Marquette University		Neva, Edward	Tex.
Needleman, Frances Lee	Pa.	Neveleff, Jerome Cooper	Conn.
Neel, Katherine Ross	W.Va.	A.B. 1941, Yale University	
A.B. 1948, The George Washington University		Neviaser, Albert Edward	D.C.
Neely, James Curtis	Va.	Neville, James Edward	N.M.
Neely, Margaret Florence	W.Va.	Nevils, Florence Irene	Vt.
Neenan, Elmer Bruno	Minn.	Nevin, John Irving, Jr.	Md.
Neff, Gladys Evelyn	Va.	New, Gregory Ryan	Ga.
Negus, Raymond Anthony	Md.	Newcomb, Margaret Elaine	Md.
LL.B. 1948, The George Washington University		Newcomer, Ruth Alma	D.C.
Neidorf, Sol	D.C.	Newell, Dorothy	Mich.
Neil, Clyde G.	Pa.	Newell, Lewis	Va.
Neill, James McDow	D.C.	Newell, Robert Yates III	Va.
		Newey, John Percy	D.C.

Newey, Samuel Ezra	D.C.	Nielsen, Jean Kelly	Va.
Newhouse, Leroy Clark	Md.	B.S. 1930, A.M. 1943, The George Washington University	Mo.
Newkirk, George Francis	Ill.	Nielson, Donald Clarence	Ill.
A.B. 1945, The George Washington University		A.B. 1946, University of Kansas	Mich.
Newkirk, LeRoy	Va.	Niemet, Emily Josephine	Va.
Newkirk, Roy Francis	N.J.	Niemi, Viola Eleanor	Okla.
Newland, Howard Theodore	Va.	Nigh, Evelyn Marie	Va.
LL.B. 1940, National University		Nightingale, Jimmy Lewis	Okla.
Newland, James Earl	D.C.	Nikolorie, Suzanne Mills	D.C.
Newman, Basha	D.C.	Niles, Jack Stone	N.Y.
Newman, Jack	N.Y.	Nimeroff, Bertram	
Newman, Jack	N.Y.	B.S. in E.E. 1943, College of the City of New York	Pa.
B.S. 1939, College of the City of New York		Nimeroff, Isadore	
Newman, Jack Benton	Md.	B.S. 1948, The George Washington University	Va.
Newman, Wallace Lee	D.C.	Nimme, Murray Franklin	D.C.
Newmyer, Armand	D.C.	Nimnom, Barbara Joy	W Va.
Newnam, William Webster	D.C.	Niner, Rosemary	Ohio
Newport, Burl Freeman	Va.	Nishimura, George Kazuo	D.C.
Newquist, Noel Clayton	Kans.	Nisson, George Wendell	D.C.
Newsome, George Marvin	Va.	Nobel, John Phelps	Pa.
Newton, Alma Louise	Va.	Nobel, Louis N.	D.C.
A.B. 1945, Wake Forest College		Noble, Robert William	N.Y.
Newton, Gordon Quincy	D.C.	Noble, Sheldon Allen	Pa.
Newton, James Robert	N.C.	Noble, William Oliver	Va.
Newton, Louis Knox	N.C.	Noffsinger, Bernice Katherine	Va.
Newton, Ruth Ida	Va.	Noffsinger, Grace Edmond	D.C.
Newton, Walter Lloyd	Md.	Nohel, John Adolph	D.C.
B.S. 1943, A.M. 1948, The George Washington University		Nolan, John Francis	Mo.
Nezin, Etta Rena	D.C.	Nolan, Joseph Delain	Va.
Nezin, Norman	D.C.	Nolan, Joseph Thomas	
Ng., Louis Hency	China	A.B. 1942, College of the Holy Cross	
Nibecker, John Braids	D.C.	A.M. 1945, Boston University	D.C.
Nibley, Reed Smoot	D.C.	Nolan, Kathleen Mary	D.C.
Nicalo, Ruth Elizabeth	Pa.	Nolan, Sally Marie	Conn.
Nicholas, Edith Neidorf	Md.	Nolan, William Joseph, Jr.	Va.
Nicholas, William	Ill.	Noland, Dewey Harrison, Jr.	Va.
Nicholas, Yvonne	D.C.	Nolen, Thelma Marie	Md.
Nichols, Aubrey Deane	D.C.	Nolte, Albert Charles, Jr.	
Nichols, Frank Dean	W Va.	B.S. in Eng. 1943, Princeton University	D.C.
A.B. 1946, The George Washington University		Nolte, Ann Elizabeth	D.C.
Nichols, Harry Edwin	Ky.	Nolte, Carl Robert	
Nichols, Louis N.	D.C.	A.B. 1948, College of William and Mary	Pa.
Nichols, Merrill Howard	Iowa	Nonemaker, Charles Henry, Jr.	D.C.
Nichols, Reford Bond	Va.	Nones, Walter Lohmann	N.Y.
Nichols, Robert Lee	Ill.	Noonan, John Thomas	N.Y.
Nichols, Warren James	Md.	Noonan, Joseph David	N.Y.
Nichols, William DeWayne	Iowa	Nordham, George Washington	Iowa
A.B. 1947, Grinnell College		Nordholm, Eric Grege	Oreg.
Nickels, Nellie Louise	Va.	Nordquist, Dean Anthony	
Nickerson, George Willis	Okla.	Noren, Morris Keith	
Nickey, Henry E.	Pa.	A.B. 1948, University of Oregon	N.Y.
B.S. 1920, Pennsylvania State College		Norman, Daniel Abraham	Md.
Nicodemus, Carol Elizabeth	Ohio	Norman, George	
Nicodemus, Donald Eugene	D.C.	A.B. 1947, Western Maryland College	Va.
Nicol, Barbara Louise	Hawaii	Norman, Lillian L.	D.C.
Nicolaides, Manuel Mike	Md.	Norman, Richard Arthur	Minn.
B.S. 1943, University of Maryland		Normandeau, Keith Joseph	D.C.
Nicolaysen, Inger Liv	Norway	Norment, Mary Hillier	D.C.
Nicolia, Vincenzo Antonio	N.Y.	Norment, Nancy Richards	Md.
Nicolopoulos, Diana Georgias	D.C.	Norrington, Frances Taylor	D.C.
Niden, David	D.C.	Norris, George Carey	Md.
B.S. in Ed. 1938, Kutztown State Teachers College, Pa.		Norris, George Francis	D.C.
Niederstrasser, Robert Edward	Va.	Norris, John Gilbert	
Niefeld, Herbert	D.C.	A.B. 1931, LL.B. 1933, The George Washington University	D.C.
Niehuss, Jacob Clark	Ala.	Norris, Joseph Kieffer	
A.B. 1940, University of Alabama		Norris, Kalliope Cleo	
Nielsen, Florence E.	D.C.		

Norris, Lawrence Geoffrey B.S. in E.E. 1947, University of Illinois	Ill.	Oakley, George D. A.B. 1945, University of Hawaii	Hawaii
Norris, Willa B.S. 1934, University of Nebraska	Nebr.	Oberdorfer, Elizabeth Weid A.B. 1939, Smith College	D.C.
A.M. 1944, Columbia University		Obermier, Edith Theresa	N.Y.
Northcott, Lois Charlotte	Va.	Obermier, John Nicholas	N.Y.
Northover, Edward Ralph	D.C.	Oberreuter, Paul	N.Y.
Northrup, Barbara Winifred	N.Y.	A.B. 1940, Manhattan College	
A.B. 1937, Elmira College		Obershain, Carry Cooper	D.C.
Northup, Graham Theodore	D.C.	Obras, Sarah	Cuba
Norton, Elizabeth R.	Md.	Oblazney, Andrew Anthony	D.C.
Norton, Hugh Stanton	Nev.	Obley, Robert William	D.C.
A.B. 1947, A.M. 1948, The George Washington University		O'Brian, Edward Day	Iowa
Norton, James Richard	Md.	B.S. in Ch.E. 1947, Iowa State College	Iowa
Norton, Maurice Edwin, Jr.	D.C.	O'Brian, Evelyn Kuntz	D.C.
Norton, Miriam	Mass.	O'Brian, Paul William, Jr.	
Norton, Muriel Jean	D.C.	A.B. 1948, University of North Carolina	
Norton, Virginia Symms	D.C.	O'Brien, Anthony Aloysius	D.C.
A.B. 1927, University of Missouri		O'Brien, Betty Marie	D.C.
Norvell, Robert Joseph	Wis.	O'Brien, Denis John	Minn.
B.S. 1947, University of Wisconsin		B.S. 1947, Georgetown University	
Norwitz, Marvin	Md.	O'Brien, Edith Loretta	D.C.
Norwood, Herman, Jr.	D.C.	O'Brien, Francis Eugene	Ohio
Norwood, Mary Lowrie	Md.	O'Brien, Frank James, Jr.	N.Y.
A.B. 1948, The George Washington University		O'Brien, George Gerald	Md.
Nothstein, Charles Lewis	Okla.	A.B. 1937, Atlantic Union College	
Nott, Joseph George	D.C.	A.M. 1948, Boston University	
Noitz, William Alan	D.C.	O'Brien, James Dennis	D.C.
B.S. 1943, Harvard University		O'Brien, Margaret Marion	D.C.
Novakovich, Dan	Pa.	O'Brien, Ralph Vincent	Md.
Novakovich, Nada	Nev.	O'Brien, Richard Glynis	D.C.
Nover, Naomi Goll	Md.	A.B. 1949, The George Washington University	
B.S. in Ed. 1944, State Teachers College, Buffalo, N.Y.		O'Brien, Robert John	N.Y.
Novy, James Samuel	Conn.	O'Brien, Tatiana	D.C.
Nowak, Leopoldina Antonie	Ill.	A.B. 1946, The George Washington University	
A.B. 1947, The George Washington University		O'Brien, William John	Mass.
Nowell, Jessie Burch	Va.	B.S. 1942, Tufts College	
B.S. 1939, Wilson Teachers College		Ochipinti, Samuel Joseph	N.J.
Nowicki, Alfred Theodore	Pa.	O'Connell, Ann Marie	D.C.
Nowland, Marian Clymer	Md.	O'Connell, James Leo	Conn.
Nubbe, Virgil George	Minn.	A.B. 1946, Niagara University	
Nuger, Caswell Gordon	Md.	O'Connell, John Joseph	Va.
Nuhn, John Alfred	Md.	O'Connor, Adele Rae	D.C.
A.B. 1947, The George Washington University		O'Connor, Charles Frederick III	Va.
Nuhn, Richard Louis	D.C.	O'Connor, Charles William	D.C.
Nunn, Joe Alexander	W.Va.	O'Connor, Denis Patrick	D.C.
Nusim, Florence	Pa.	O'Connor, Edith Norris	Va.
A.B. 1945, Cornell University		O'Connor, Edward John, Jr.	D.C.
A.M. 1947, Columbia University		O'Connor, Isabelle H.	Kans.
Nussbaum, George Leight	D.C.	O'Connor, James Joseph	Md.
Nuth, Eleonore Julia	N.Y.	O'Connor, James Vincent	N.Y.
Nutter, Joseph William, Jr.	R.I.	O'Connor, Patricia Ann	D.C.
A.B. 1947, Yale University		O'Connor, Richard Leo	D.C.
Nuttman, Harold Franklin	Kans.	O'Connor, James Atlee	Va.
Nyberg, Ernest Wilmer	Va.	Oda, Robert Yasuo	Hawaii
Nyce, James Carroll	D.C.	O'Day, John Bartholomew	D.C.
Nye, Nona Woldow	Md.	O'Dea, Patricia Ann	D.C.
Nygard, John C.	Calif.	A.B. 1948, Dunbarton College	
Nyhagen, Donald Richard		O'Dea, Patrick Lawrence	D.C.
B.S. 1944, University of California at Los Angeles		B.S. 1948, The George Washington University	
O		O'Dea, Thomas Emmett	D.C.
Oakes, Edmund Ignatius, Jr.	D.C.	O'Dell, Jessie Elizabeth	Va.
Oakes, Walter Foster, Jr.	Va.	Odineal, Mary Louise	D.C.
		O'Donnell, Anne Hedwig	D.C.
		B.S. 1947, Wilson Teachers College	
		O'Donnell, Catherine Marie	Pa.
		O'Donnell, Edward Joseph	Mass.
		B.S. 1920, United States Naval Academy	

O'Donnell, Francis Joseph	N.J.	Ollice, John H.	Va.
O'Donnell, John Gratton	D.C.	Olmert, Robert Francis	D.C.
O'Donnell, Joseph Michael	D.C.	Olmsie, Carlyne Mae	Ala.
O'Donnell, Robert Emmett	Pa.	Olmstead, Normand Henry	Va.
O'Donnell, Vincent Leo	Pa.	Olmosted, George Leavitt	Md.
O'Donnell, William Hennington	D.C.	Olmosted, Maxine Blakemore	
O'Donoghue, William Henry	D.C.	A.B. 1931, University of Washington	Pa.
Odza, Hugh Malcolm	Pa.	O'Loughlin, Frank Xavier	D.C.
A.B. 1947, Pennsylvania State College		Olmsvsky, Steve Anthony	D.C.
Offenbacher, Hurley Francis	D.C.	Olsen, Benjamin C.	D.C.
Offenbacher, Thomas Ralph, Jr.	D.C.	Olsen, Christopher	D.C.
Offield, Vonna Watson	Va.	Olshaker, Gertrude Edith	D.C.
B.S. 1918, Northeast Missouri State Teachers College, Kirksville, Mo.		B.S. 1944, Wilson Teachers College	D.C.
Offutt, Eleanor Rebecca	D.C.	Olshaker, Irving Herman	D.C.
O'Flaherty, Barbara Jean	Va.	Olshaker, Thelma A.	
O'Flaherty, Daniel Fairfax	Va.	B.S. 1947, Wilson Teachers College	N.Y.
O'Friel, Edward Waters	Pa.	Olshin, John Seymour	N.Y.
Oftedal, Richard Hallard	D.C.	Olshin, Seymour Samuel	N.D.
Oftedal, Sverre John, Jr.	D.C.	Olson, Darwin Leander	
A.B. 1943, Occidental College		B.S. 1941, North Dakota Agricultural College	N.D.
O'Gara, Roger William	Mass.	Olson, Esther Clarine	N.D.
A.B. 1946, The George Washington University		Olson, Leonard Emanuel	D.C.
Ogburn, Mary Cornelia	Va.	Olson, Lorene Nelson	
A.B. 1945, Sarah Lawrence College		A.B. in Ed. 1931, The George Washington University	Minn.
Ogden, Elaine Louise	Iowa	Olson, Lucille Marie	Va.
Oglesby, Nicholas Ewing, Jr.	N.Y.	Olson, Richard Edmund	D.C.
B.S. in Ch.E. 1943. M.S. in Ch.E. 1947, Rensselaer Polytechnic Institute		Olson, Richard Lionel	D.C.
Oglesby, Sam Walker	Ga.	Olson, Charlene Elizabeth	Md.
O'Hara, Edward Michael	Minn.	Olzowski, Doris Morgan	N.Y.
O'Hara, John Joyce	D.C.	Olzowski, George John	D.C.
Oheim, William Russell	D.C.	Olverson, John Benjamin	
Ohl, Robert Franklin	Va.	B.S. 1947, American University	
Ohliger, Dorothy Louise	D.C.	LL.B. 1939, LL.M. 1941, Georgetown University	R.I.
Oiesvold, Einar Bernhard	Norway	O'Malley, Marguerite Ann	D.C.
Oishi, Masaichi	Hawaii	O'Meara, William Raymond	N.C.
O'Keef, John Edward	Ill.	O'Neal, Barbara Jean	Minn.
O'Keefe, George Aloysius	Mass.	O'Neal, James Ormiston	W.Va.
O'Keefe, John Joseph	D.C.	O'Neal, Mary Lee	Va.
A.B. 1948, University of Southern California		O'Neal, Thomas Gregg	
O'Keefe, Mary Frances	Pa.	B.S. 1939, The Citadel	
Okerson, Glenn Woodrow	Okla.	A.M. 1935, New York University	Okla.
B.S. in E.E. 1935, University of Oklahoma		O'Neal, Victor Thomas	Va.
Okopinski, Charles Paul	Va.	O'Neale, William Leroy	Ga.
Olds, Mary Leland	D.C.	O'Neil, Betty Wood	Va.
O'Leary, Cornelius William, Jr.	Fla.	O'Neill, Charles James	
O'Leary, John Francis	D.C.	B.S. 1934, A.M. 1940, New York University	D.C.
A.B. 1948, The George Washington University		O'Neill, Daniel Joseph	Puerto Rico
O'Leary, Mary Jean	D.C.	O'Neill, Patrick Joseph	D.C.
A.B. 1946, The George Washington University		O'Neill, Robert Daniel	Md.
O'Leary, Rawlin Eugene	Utah	O'Neill, Robert Joseph, Jr.	Md.
Olenik, Joseph Eugene	Pa.	Ong, Harry Alfred, Jr.	Pa.
Oliff, Edward George	D.C.	Onufrak, John Joseph	Mass.
Olin, Wilber C.	D.C.	Oparowski, Walter Emil	Va.
Olinato, Peter, Jr.	Fla.	Opp, William Russell	Va.
Oliver, Edward Eugene	D.C.	Opperman, Lillian Eble	
Oliver, Elizabeth	D.C.	B.S. 1939, Evansville College	Okla.
Oliver, Emery Eugene, Jr.	D.C.	Opal, Lewis William	Ark.
Oliver, Gertrude Chesley	D.C.	O'Quinn, Max Earl	N.J.
Oliver, Lloyd Gilbert	D.C.	Ordille, John Everett	W.Va.
Oliver, Phyllis Irene	D.C.	Orebaugh, Andrew Edward	Sweden
Oliver, Wallace Bryan	D.C.	Oredsson, Tore Per Gabriel	
Oliver, William Palmer, Jr.	Ore.	B.C.E. 1941, The Technical University of Stockholm	Conn.
A.B. 1941, University of Missouri	Va.	O'Reilly, Kathryn Louise	
Olivieri, Americo Christopher	Mo.	B.S. 1932, Mount Saint Vincent College	Md.
Ollendorf, Donald	D.C.	O'Reilly, Marjorie Helen	N.Y.
	Va.	Orenstein, Herbert	
		Orenstein, Marilyn Claire	

Orlando, Anne Marie	N.Y.	O'Toole, Ursula Elizabeth	Mich.
Orleans, Joan Lorelei	D.C.	Ott, Iva Murriel	D.C.
Orlin, Hyman	N.Y.	Ott, Katherine A.	Va.
B.B.A. 1942, College of the City of New York		B.S. 1934, Western Reserve University	
Orloff, Leonard Mark	D.C.	Otte, George Robert	Md.
Orloff, Milton	D.C.	Otterman, Harvey Boyd, Jr.	Vt.
Orlove, Harold	Pa.	Otti, Charles Leo	Calif.
Orlove, Henry	D.C.	Otting, William Joseph, Jr.	Md.
Ormass, Anthony John	Va.	B.S. 1946, The George Washington University	
A.B. 1940, University of California		Otto, Frederick Franklin	Md.
Ormond, William Berkeley	Md.	A.B. in S.E. 1948, Shepherd College	
Ormsbee, Charlotte F.	D.C.	Otto, Ingolf Helgi Elfried	Ohio
Ornstein, Renee Marilyn	D.C.	A.B. 1941, University of Cincinnati	
Orr, Warren Harry	Va.	Ouellette, Lucille Tyler	D.C.
Orr, William Baxter	Tex.	Oulickey, Mildred Alvina	Minn.
Ortega, Carlos J.	N.M.	Overmiller, Eugene Allen	D.C.
Ortelani, Frank Richard	Pa.	Overstreet, Phoebe Lucille	D.C.
B.S. 1944, B.S. in Ch.E. 1948, Pennsylvania State College		A.B. 1945, The George Washington University	
Osann, Robert	Va.	A.M. 1945, Wellesley College	
B.Ch.E. 1943, Rensselaer Polytechnic Institute		Owaroff, Martha Adelaide	Va.
Osborn, Ilah Traver	Va.	Owen, Cody Horace	D.C.
B.S. 1920, Oregon State College		Owen, Frances Chandler	Va.
Osborne, Phillip Wallace	D.C.	B.S. 1932, Woman's College of the University of North Carolina	
Oscanyan, Paul Christopher III	Va.	Owen, George Morgan	Va.
Oscar, Jean Sonya	D.C.	Owen, Richard Roberts	Ind.
Osheroff, Milton	N.Y.	Owen, Thomas McAdory	Ala.
B.S. 1930, College of the City of New York		Owen, William Edison	D.C.
Osheroff, Samuel	D.C.	LL.B. 1948, The George Washington University	
Oshinsky, Betty Joan	D.C.	Owens, Clarence Julian	D.C.
Osinski, Peter P.	D.C.	Owens, Helen Vincent	Wyo.
A.B. 1940, Catholic University of America		A.B. 1941, The George Washington University	
Osman, June Naomi	D.C.	Owens, Jack	W.Va.
Osovitz, Evelyn	Md.	Owens, Katharine Greene	Tex.
A.B. 1943, Goucher College		A.B. 1946, Smith College	
Ostatnik, Stephen Frederick	N.J.	Owens, Marcus Orlando, Jr.	Tex.
A.B. 1940, Wittenberg College		Owens, Muriel Bernice	Wash.
Ostergren, Charlotte Mae	D.C.	Owings, Ruth	S.C.
Osterman, Herbert William	Mich.	B.S. in Mus. 1928, Furman University	
B.S. 1944, University of Michigan		Oxendine, Heaverd Dobber	D.C.
LL.B. 1948, The George Washington University		Oxford, Jack	Pa.
Ostheff, Hazel Jean	Kans.	Oxholm, Axel Waldemur	D.C.
Ostlich, Ralph	D.C.	Oxley, John Edward	D.C.
Ostroff, Alvin	Va.	Oyler, Esther Lucile	D.C.
Ostrom, Gene Francis	D.C.	A.B. 1945, Sterling College	
Ostrom, Walter Roy	D.C.	Ozburn, Ernest Eugene	Ga.
Ostrove, Bertram Ira	N.Y.	Ozier, Leslie Grady	D.C.
O'Sullivan, John Maurice	Mass.		
Oswald, Betty Jane	N.Y.		
Oswald, Elizabeth Janet	Va.		
B.S. 1937, University of Maryland		Paalow, Joseph	D.C.
M.S. 1947, The George Washington University		B.S. 1945, University of Pittsburgh	
Oswald, Jean Louise	D.C.	Paape, Ronald Charles	Minn.
A.B. 1948, The George Washington University		Pace, James Earl	Md.
Oswald, William John, Jr.	Pa.	Pace, Moody Anderson	D.C.
Oswalt, Thelma Grey	D.C.	Pacholski, Angeline Agnes	Wis.
A.B. 1928, Mississippi State College for Women		Paciga, John Joseph	Pa.
Otero, Arnaldo	D.C.	Packard, Ralph John	Va.
Otero, Luis Ravi	D.C.	Packer, Ellis Reed	D.C.
Otero, Robert Luis	D.C.	Pacl, Thomas Rudolf	Va.
Otis, Leroy Maurice	Md.	Padberg, Jerome Frederick	Mo.
B.M.E. 1914, Colorado School of Mines		Padbury, Harry Rines	Maine
O'Toole, Stephen James	Va.	Paddock, Marianna	Ill.
B.S. in Ed. 1940, Fordham University		A.B. 1933, University of Michigan	
		Padgett, Edward Riddle	Md.
		A.B. 1947, Johns Hopkins University	
		Padgett, Sarah Eleanor	N.C.
		Padilla, George Mario	D.C.

Pagan, Katherine	D.C.	Parh, Helen Dorothy	Va.
B.S. 1938, Wilson Teachers College		B.S. 1946, The George Washington University	
Page, Aileen Coolidge	Md.	Parh, Lee Crandall	Va.
Page, Helen Bell	D.C.	B.S. 1947, Yale University	Md.
A.B., LL.B. 1948, The George Washington University		Parh, Mary Ellen	
Page, William Hasbrouck	Va.	A.B. 1947, Bucknell University	D.C.
Pagter, Amos Townsend	D.C.	Parker, Charles Dewey	Va.
Pagter, Elizabeth Eugenia	D.C.	Parker, Clair Francis, Jr.	Tex.
A.B. 1945, The George Washington University		Parker, David Eric, Jr.	D.C.
Paidakovich, Matthew Joseph	Md.	Parker, Edward Patrick	D.C.
Pailas, Themis Constantine	D.C.	Parker, Everett Alton	Va.
B.S. 1948, Washington University		Parker, George Alton	
Paine, William Howard	Calif.	LL.B. 1939, The George Washington University	
Painter, Eleanor M.	Pa.	Parker, Harold Curtis	D.C.
Painter, Merle Elmer	D.C.	Parker, James Brandon	Va.
B.S. in Ec. 1943, University of Pittsburgh		Parker, James Coy, Jr.	D.C.
Paisley, Elizabeth Ann	Va.	Parker, Jane Montgomery	D.C.
Paiva, Walter Teixeira	Mass.	Parker, Jane Timmons	D.C.
Pakis, Gloria Alexander	D.C.	Parker, Janice Carolyn	D.C.
Pakravan, Sarah	Iran	Parker, John Elliott	Va.
Palau, Manuel	Puerto Rico	Parker, Katherine Virginia	N.Y.
Palder, Edward Lawrence	D.C.	Parker, Louise Buell	
Pale, Joseph Jeffries	D.C.	A.B. in Ed. 1947, State Teachers College, Potsdam, New York	D.C.
Paleologos, Peter Harry	D.C.	Parker, Muriel Mary	D.C.
Palmasani, Daniel Robert	D.C.	Parker, O. B.	Ky.
Palmer, Arthur Andrew, Jr.	Va.	Parker, Ralph Woodford	
B.S. 1948, University of Maryland		A.B. 1930, Georgetown College	Md.
Palmer, Frank Conrad, Jr.	D.C.	Parker, Richard Dale	D.C.
Palmer, Frank Patterson, Jr.	Md.	Parker, Richard Fermau	Va.
Palmer, Gladys Edith	Va.	Parker, Sarah Ann	D.C.
A.B. 1945, The George Washington University		Parker, Thomas	Wis.
Palmer, John Gilbert	Md.	Parker, Virginia Mae	
Palmer, Robert Edward	Calif.	A.B. 1941, University of Wisconsin	
Palmer, William Colton	Md.	A.M. 1948, University of California	Ill.
A.B. 1948, The George Washington University		Parker, William Axel	
Palmer, Douglas Edward	Va.	B.S. 1945, University of Illinois	Ill.
Palmer, Lowell Richard	D.C.	Parkes, James Lloyd	Md.
Palta, Hardev Singh	India	Parkin, William Royal	Ind.
A.B. 1937, Ludhiana College, India		Parkinson, Kenneth Wells	Calif.
Palting, Luidita Castro	D.C.	Parkinson, Robert Leslie	
Pan, Chao Sung	China	Parks, Albert Benning	
LL.B. 1943, Soochow University		A.B. 1943, The George Washington University	
Panasakos, Charles Michael	Mass.	Parks, Evelyn Cole	D.C.
Panagos, Peter Anthony	D.C.	Parks, James Theodore	Okla.
Panasewich, Walter	Conn.	Parks, Thomas Alvin	D.C.
Pandiscio, Nicholas Anthony	Mass.	B.S. 1948, Georgia School of Technology	
B.S. in Ch.E. 1947, Northeastern University		Parloff, Morris Bernard	Ill.
Panettieri, Robert	N.Y.	A.B. 1940, A.M. 1943, University of Chicago	Ohio
Pannill, William Eliason	D.C.	Parman, Nora Jean	D.C.
Panor, Marie	D.C.	Parnele, Ralph Owen	D.C.
Panosian, Haig Aram	D.C.	Parmenter, Kathleen Maud	D.C.
Pantelias, John	N.Y.	Parmer, Margaret Anne	Va.
Pantol, Clare Winifred	N.Y.	Parojinos, Simplicio Cuyao, Jr.	N.M.
Pao, Wen Nien	Mass.	Parish, John Poindexter	
A.B. 1925, The University of Nanking, China		Parish, Lloyd Withers	
Papamichael, Michael Damianos	Egypt	B.S. 1933, United States Naval Academy	D.C.
Papaxoglou, Mary	Conn.	Parish, Matthew Dunwood	Va.
Pape, Robert Bruce	N.Y.	A.B. 1910, University of Virginia	D.C.
Pappafotis, Spero John	D.C.	Parrott, John Aubrey	
Pappas, Leo Basil	N.Y.	Parry, Eleanor Elizabeth	D.C.
A.B. 1943, High Point College		Parry, James Davidson	Md.
Pappas, Stavros Steve	D.C.	Parrell, David Elwood	D.C.
Paradies, Noel Edwin	D.C.	Parsons, Elizabeth Newton	Md.
A.B. 1948, University of Maryland		Parsons, Elmer Ermon, Jr.	D.C.
Paravati, Joseph William	D.C.	Parsons, Mary Persis	

Partanen, John Emil B.S. in M.E. 1941, University of Arizona	Ariz.	Patty, Clarence Ralph, Jr. B.S. in E.E. 1940, University of Tennessee	Va.
Partridge, Frances Jane	Va.	Paul, Albert Franklin	Md.
Pasbach, Lawrence Robert	Mich.	Paul, Alvin Wilson	N.Y.
Paschal, Buford Haran	Ala.	Paul, Charles Bennett	D.C.
Paschall, John Wesley, Jr.	Ark.	Paul, Dorothy Elizabeth	Ind.
Pasco, Nicholas Daniel	Mass.	A.B. 1942, University of Kentucky	
Pasquale, Matthew Richard	Pa.	Paul, Howard Cochran	Pa.
Pasternack, Ann	Va.	Paul, LeRoy Spencer	D.C.
Pasternak, Robert	N.Y.	Paulding, Clayton Alpha	Mass.
A.B. 1936, University of Wisconsin		Paulette, Edward Wiltsie	Va.
Pasternak, Stephen	W.Va.	A.B. 1932, Hampden-Sydney College	
Pasternak, Walter Paul	W.Va.	A.M. 1943, University of Maryland	
A.B. 1942, Salem College		Paulish, Eugene Bernard	Pa.
Pastie, Peter John	Mass.	Paulos, David Theodore	D.C.
Paston, Greta Mina	N.Y.	Paulsen, Wilbur Harper	D.C.
Pastor, Sylvia I.	Ohio	Paulson, Norman Clarence	S.D.
Pastoriza, Ralph Babcock	N.Y.	Pauly, Mary Permelia	Mo.
B.S. 1944, California Institute of Technology		B.S. 1946, College of William and Mary	
Pastrick, George Andrew	D.C.	Pavelko, Walter Russell	D.C.
Patch, Richard Lloyd	Va.	Pavia, Joaquin Antonio	N.Y.
Patch, Robert John	D.C.	Pavick, John Nicholas	Pa.
B.S. 1948, University of Michigan		Pavis, Celia Kirshner	Del.
Patchan, Michael	Va.	Pavis, William Walter	D.C.
Patermaster, Gene Cressman	D.C.	Pavlat, Robert Kendall	Md.
A.B. 1947, The George Washington University		Pavlu, Lawrence Kenneth	N.J.
Paternoster, Joseph Anthony	D.C.	Pawley, Morris Neilson	Va.
Patlen, Bernard Leonard	D.C.	Payne, Albert Alford	Tex.
Patnode, Charles Hunt	Vt.	A.B. 1942, The George Washington University	
A.B. 1935, University of Vermont		Payne, Bettie Louise	Tex.
Patrick, Kenneth Washington	D.C.	A.B. 1940, Texas Technological College	
B.S. 1937, United States Naval Academy		Payne, Bruce McCollum	Va.
M.S. in E.E. 1946, Massachusetts Institute of Technology		Payne, Francis William	Va.
Pateavas, Constantine Chris	Ill.	Payne, Francis Xavier	Md.
Patten, Cornelia Golding	D.C.	Payne, Harold Wilson	Va.
Patten, Stanley Fletcher, Jr.	D.C.	Payne, Joyce Lee	Va.
Patterson, Bradley Hawkes, Jr.	Mich.	Payne, Ralph Lucian	Va.
A.B. 1942, A.M. 1943, University of Chicago		Payne, Robert Roscoe	W.Va.
Patterson, Carrie Elizabeth	Va.	A.B. 1941, Shepherd College	
Patterson, Dolores Marie	N.J.	Payne, William Darby	D.C.
Patterson, Ernest Harold	Pa.	Peacock, Carl Leroy	Md.
B.S. 1942, Temple University		Peacock, Harold	Ala.
Patterson, Gayle Devon	Md.	A.B. 1941, Columbia University	
Patterson, Ila Lucille	D.C.	Pear, Bertram Lincoln	Colo.
A.B. 1936, Converse College		A.B. 1947, The George Washington University	
Patterson, John Edward	Tenn.	Pear, Leon	Md.
Patterson, Joseph Clarence, Jr.	Pa.	B.S. 1947, University of Maryland	
Patterson, Joseph William	Iowa	Pearce, Franklin Lee	Kans.
Patterson, William Amos	D.C.	Pearce, James DeRemer III	Fla.
Patterson, William Henry	Mo.	Pearce, James Tucker	Conn.
Patterson, William Strong	D.C.	Pearcy, Klyne Francis	D.C.
Patton, Arthur Gordon	Va.	Pearcy, William Kenneth	Mo.
A.B. 1940, Erskine College		Pearlman, Belle	D.C.
A.B. 1946, Yale University		Pearson, Beverly Stocking	D.C.
Patton, Calvin Eugene	D.C.	A.B. 1940, Vassar College	
Patton, Cubert R.	Miss.	Pearson, Ellsworth Carl	Minn.
B.S. in C.E. 1933, Mississippi State College		Pearson, Richard Wyman	D.C.
Patton, John Strohm	Calif.	Pearson, Thomas Joseph	D.C.
B.S. 1941, University of Southern California		Pearson, Vera Maxine	Ill.
Patton, Philip Joseph, Jr.	Ohio	Peaslee, Dorothy LaRoe	Md.
A.B. 1941, University of Akron		Peaslee, Patricia Dorothy	D.C.
Patton, Raleigh Scott	Tenn.	B.S. 1917, University of Cincinnati	
A.B. 1948, University of Chattanooga		Peck, Bernard	N.Y.
		A.B. 1939, Indiana University	
		A.M. 1941, Columbia University	
		Peck, Millard, Jr.	Va.
		Peck, William Bethule	N.J.

Pecora, Louis Joseph	Md.	Perez-Colon, Jose Enrique	Cuba
B.S. 1933, Tufts College		Periel, Roman Conrad	Mich.
Pecot, Rebecca Koonce	D.C.	B.S. 1947, Michigan State College	Pa.
Pedrick, John Lumsdon	Iowa	Pericles, John	D.C.
B.S. 1939, Parsons College		Perkins, Alfred William, Jr.	Md.
J.P. 1948, Northwestern University		Perkins, Billie L.	D.C.
Peed, Hazel Jeannette	Md.	Perkins, Edgar Madison, Jr.	D.C.
Peeke, Raymond Greer	Mich.	Perkins, Edwin Thomas	D.C.
A.B. 1917, Park College		Perkovic, Josephine Caroline	Wb.
Peel, Ella Leuvenia	D.C.	Perlman, Al B	Fla.
Peel, Fred Welch, Jr.	Ky.	Perlman, Eliah Pincus	
B.S. 1939, LL.B. 1943, Harvard		B.S. 1943, Alabama Polytechnic	
University		Institute	
Peebles, Irving Warren	D.C.	Perlman, Elisheva	D.C.
Peha, Charles Ness	D.C.	Perlmutter, Jerome Herbert	N.Y.
Peifer, William Houston	Pa.	Perlo, Hyman M.	D.C.
Peimann, Esther Elizabeth	S.D.	Perna, Louis Robert	R.I.
Peisner, Arthur A.	D.C.	Perra, Margaret Ann	Va.
Pelham, David Elliot	D.C.	Perrin, James Wilkins	D.C.
B.S. 1931, Tufts College		Perrin, Jean Julien	D.C.
Pelikan, Robert Grant	D.C.	Perrin, Therese Mathilde	D.C.
Pell, Arthur Jack	D.C.	Perrone, Jeanne d'Arc May	D.C.
Pellerin, Dennis Wilfred	N.J.	Perros, George Peter	
Pellerzi, Leo Maurice	D.C.	A.B. 1940, The George Washington	
Pelletier, Albert Joseph, Jr.	Va.	University	
Pelletier, Avila Adelard	Md.	Perros, Theodore Peter	D.C.
Pelletier, George Eugene	D.C.	B.S. 1946, The George Washington	
Pelto, Roy Elmer	Minn.	University	
A.B. 1945, The George Washington		Perrott, Thomas Andrew	Va.
University		Perrott, Virginia Marie	D.C.
Pelto, Victor Hugo	D.C.	Perry, Anna Mae	N.Y.
Pelton, Robert James	Md.	Perry, Elena Victoria	
Pemberton, Henry Walter	Minn.	A.B. 1948, Hunter College	Mich.
A.B. 1947, Amherst College		Perry, Hugh Russell	Colo.
Pena, Rafael Hector	Puerto Rico	Perry, John Kenneth	D.C.
Pence, Carrie Rebecca	D.C.	Perry, Norman Ray	Miss.
Pence, Grace Alice	D.C.	Perry, Robert Charles	Ark.
Pence, Thomas Arthur	Va.	Perry, Wilburn Robert, Jr.	Va.
Pence, Virgil Lewis	D.C.	Persian, John Gregory	Va.
Pendell, Martha Jane	Va.	Persiani, Rosemary	Pa.
Pendergast, Charles William	W.Va.	Persichetti, Elmer Vincent	
Pendergast, Edward Henry, Jr.	D.C.	B.S. in Educ. 1938, State Teachers	
Pendergrass, James Theodore	N.Y.	College, Indiana, Pa.	N.C.
A.B. 1930, Cornell University		Person, Richard Becton	Va.
A.M. 1940, Columbia University		Person, Robert	
Pendergrass, John Mullard	Va.	A.B. 1917, Clark University	Va.
A.B. 1945, Kalamazoo College		Person, Vernon James	D.C.
M.P.A. 1946, Wayne University		Person, Norman Edward	Md.
Pendleton, Edmund Elliott	Md.	Pertsch, Joseph Louis	D.C.
Penn, Arthur Allan	D.C.	Pescov, Geraldine	Ill.
Penn, John Wesley	D.C.	Peskind, Sarah Ruth	N.Y.
Penn, William Allen	Md.	Pess, Louis	
Penne, Harold Birgins	S.D.	B.S.S. 1938, College of the City	
Pennefeather, Joseph E.	N.Y.	of New York	Ohio
Pennell, Alfred Reed	N.Y.	Peter, Thomas Armistead	D.C.
A.B. 1930, Yale University		Peteritas, Ray Anthony	D.C.
A.M. 1938, Columbia University		Peters, Betty Joan	Hawaii
Penninroth, Ann	D.C.	Peters, Charles Merritt, Jr.	D.C.
Pennington, John Byron	D.C.	Peters, Dorothy Ellen	Va.
Pennyman, Lola	Miss.	Peters, Harrietta Sinclair	
Penrose, Raymond Glenn	Pa.	B.S. 1945, Madison College	D.C.
Pepler, Claire Madelyn	Mass.	Peters, James Walker, Jr.	Md.
Pepper, Hobart Garrett	D.C.	Peters, Julius M.	
Peppers, Richard Langford	Ill.	A.B. 1938, A.M. 1942, The George	
Perce, LeGrand Winfield	D.C.	Washington University	D.C.
Percival, William Alfred	Pa.	Peters, Marguerite L.	Va.
Percy, Morgan F.	N.Y.	Peters, Marie Cox	
Perdew, Robert Beasley	Md.	A.B. 1940, Madison College	Va.
Perez, Frank Herbert	D.C.	Peters, Marion Taylor	Mass.
Perez, Horace Hugo	Guatemala	Peters, Stephen	
B.S. 1946, Louisiana State University		A.B. 1934, A.M. 1936, Harvard	
Perez, Jorge Ramon	Puerto Rico	University	
Perez, Wilda C.	Va.		

Petersen, Stanley Wilhelm A.B. 1941, The George Washington University	N.Y.	Phifer, Jean A.B. 1927, Lynchburg College	Md.
Petersen, Vivian Williams	D.C.	Philips, John Chase	D.C.
Peterson, Amelia	Va.	Philipsborn, Helen Worth	N.Y.
Peterson, Charles David A.B. 1948, Harvard University	Maine	Philipson, Bruce Glueck B.S. in C.E. 1948, Catholic University of America	D.C.
Peterson, David Allen B.S. 1937, Massachusetts State College	Mass.	Phillips, Allvertha Bussey A.B. 1945, A.M. 1947, University of Maryland	Md.
Peterson, Dean Constantine	Va.	Phillips, Anna Louise	D.C.
Peterson, George Edmund B.S. 1924, United States Naval Academy	D.C.	Phillips, Donald Tuford	W.Va.
Peterson, George K.	N.C.	Phillips, Eleanor Adams	D.C.
Peterson, Harrison V.	D.C.	A.B. 1936, Vassar College	Va.
Peterson, Harvey Wayne	D.C.	Phillips, Frances Guck	Va.
Peterson, Marjorie Isabel	Mass.	A.B. 1914, Wellesley College	D.C.
Peterson, Marshall Noel	Miss.	Phillips, Frederick David	Va.
Peterson, Nad A.	Utah	Phillips, George Ernst A.B. 1934, College of William and Mary	D.C.
Peterson, Oscar B.B.A. 1927, Boston University M.F.S. 1931, Georgetown University	N.H.	Phillips, Gordon Allison Ph.B. 1947, University of Chicago	D.C.
Peterson, Patricia Ann	Va.	Phillips, Laura Marley	D.C.
Peterson, Roland Ludwig	Ill.	Phillips, Lawrence Vince	D.C.
Pethal, Burnell Erwin	W.Va.	Phillips, Lloyd James	D.C.
Petiprin, Floyd Raymond	Mich.	Phillips, Martha M.	W.Va.
Petkovich, Samuel	Ohio	A.B. 1917, Wilson College	D.C.
Peto, John B.S. 1947, College of the City of New York	N.J.	Phillips, Mary Elizabeth	Va.
Petro, James John B.S. 1948, American University	D.C.	Phillips, Mary Jane B.S. 1934, West Virginia University	D.C.
Petrobono, Alfonso	N.Y.	Phillips, Morris Thomas	Va.
Petrolino, James Stewart	N.Y.	Phillips, Norma Jean	Calif.
Petroutsa, Antigone Q.	D.C.	Phillips, Paul Richard A.B. 1947, University of California	Idaho
Petroutsa, Stella Demetria	D.C.	Phillips, Richard Ward	D.C.
Petry, Jack Albert A.B. 1933, Susquehanna University M.S. in Ed. 1947, University of Pittsburgh	Md.	Phillips, Sara Mae Phillips, Virginia Clay A.B. 1938, Northeast Missouri State Teachers College, Kirksville	Mo.
Petschke, Everett Julius	Va.	Phillitt, Frederick Charles B.Ch.E. 1947, University of Maryland	D.C.
Petsko, John	Pa.	Phinney, Alan Yardley	Va.
Pettigrew, Jamie Lucille A.B. 1947, The George Washington University	Va.	Phipps, Edna Mae B.S. 1941, Mary Washington College	D.C.
Pettigrew, W. B. B.S. 1933, Northwest Missouri State Teachers College, Maryville	Va.	Platt, Victor Raymond B.S. in Ch.E. 1940, Kansas State College	N.M.
Pettinichi, Arthur John	N.Y.	Picciano, Eugene Michael A.B. 1948, The George Washington University	D.C.
Petty, James Spilman	Va.	Picciano, Marie Emile	D.C.
Petty, Richard Alden	Va.	Pick, Lula Maxine	W.Va.
Peyton, Harry Jackson, Jr.	Md.	Pickens, John Kenneth LL.B. 1943, Harvard University	N.J.
Peyton, William Halliday	Va.	Pickens, William Hopkins A.B. 1929, University of Alabama	Ala.
Pfeferstein, Melvin Gerald	N.J.	Pickering, Leonard Leroy	Okla.
Pfeiffer, Albert Randolph	D.C.	Pickering, Woodrow Harold	Ohio
Pfeiffer, Frederick Thompson A.B. 1947, University of North Carolina	D.C.	Pickett, Jack Milton	Va.
Pfhrmann, Frank Peter	Ohio	Pickett, Nita Alleyne A.B. 1932, The George Washington University	Ill.
Pfister, Elvera	Ohio	Pickett, Robert Eugene	Ohio
Pfund, Charles Edward B.S. in E.E. 1943, Iowa State College	Md.	Pickler, William Claude, Jr.	D.C.
Pfunter, Carl Herman	Fla.	Pidgeon, Joseph William	N.Y.
Phelps, Allen Warner	D.C.	Pielmeier, George Robert	D.C.
Phelps, Robert Francis	Iowa	Pierce, Edward A., Jr.	D.C.
Phelps, Warren Howard	Va.	Pierce, Edward Roland B.S. 1948, Purdue University	D.C.
Phelps, William Wendell A.B. 1948, The George Washington University	Calif.	Pierce, Henry Maurice	Va.
Pherson, John Randolph A.B. 1948, The George Washington University	D.C.		

Pierce, James Baker B.S. in E.E. 1943, University of Michigan	Mich.	Pisley, Roberta MacIntyre	Ill.
Pierce, Jana Marie	D.C.	Pizer, Robert Simon	D.C.
Pierce, Margaret Anne	N.Y.	Pizer, Samuel	N.Y.
Pierce, Olivia Banlez	Va.	A.B. 1944, The George Washington University	D.C.
Piercy, Weeta Paige B.S. 1938, Wilson Teachers College	N.C.	Pizza, Harry Joseph	Mass.
Pierson, Polly Elizabeth	Md.	Pizzano, Robert Arthur	Va.
B.S. in Ed. 1947, University of North Carolina		Plagens, Dora Harris	D.C.
Pietras, Chester Joseph	Mass.	Plair, James Beavia	Conn.
Pifer, Kenneth Chrisman	W.Va.	Planck, Louise Christine A.B. 1948, Middlebury College	Pa.
Pigg, Loya Lynn	Va.	Planishek, Anne Mary	D.C.
Pike, Albert Hamilton	D.C.	Plaskett, Anne Elisabeth	D.C.
Pike, Wayne Jewell	Va.	Platky, Leon David	N.Y.
Pilch, Anthony Felix	Pa.	Platt, Elwood Andrew	Iowa
Pilon, Dorothy Killen	Va.	Platt, Frank Leslie	Ill.
Pilson, Elizabeth Craig	D.C.	Platt, Wesley McCoy B.S. 1935, Clemson Agricultural College	Md.
Pilzer, Charles Jay	D.C.	Platt, William Templeton	N.Y.
Pimentel, Rafael Lebron	D.C.	B.S. 1939, Franklin University	N.Y.
Pinch, Edward Thomas	Fla.	Platto, Leon A.B. 1937, Brooklyn College	N.Y.
Pincus, Arthur	D.C.	Plavin, Melvin	Ohio
Pincus, Saul	N.Y.	Plazak, James Joseph	Pa.
B.S. 1941, College of the City of New York		Pleacher, John King	Va.
Pinde, William Hamilton, Jr.	D.C.	Pleasant, John Franklin	N.Y.
Pine, Donald Kay	Va.	Plehaty, Spencer Lloyd	D.C.
Pine, Sara Ford Dallmeyer	D.C.	A.B. 1948, Wesleyan University	Fla.
Pineau, Roger	Mich.	Plotkin, Vincent William, Jr.	Va.
A.B. 1942, University of Michigan		Plotkin, Leonard	D.C.
Pinggera, John Joseph	N.Y.	Plotkins, Sally	Md.
Pingley, Sally Belle	D.C.	Plotnick, Leonard	
Pinion, Jack Andrew	Md.	Plotnick, Theodore	
B.S. 1938, University of Nebraska		A.B. 1932, University of Pennsylvania	
Pinkham, Fabian	Md.	LL.B. 1938, Temple University	D.C.
Pinks, Robert R.	Kans.	Plowman, Dorothy Anne	Va.
A.B. 1936, Southwestern College		Plucknett, Knoland James	
A.M. 1946, University of Maryland		B.S. in E.E. 1938, University of Nebraska	D.C.
Pinson, Nancy Louise	D.C.	Plugge, Kathryn	N.Y.
Pinter, Elizabeth	N.Y.	Plumb, Rosemary Dengler	
Piper, Charles Woods	Fla.	A.B. 1947, University of Rochester	
Piper, Winnifred E.	N.Y.	A.M. 1948, The George Washington University	Md.
A.B. 1945, Antioch College		Plunkett, Charles MacLeod	Mo.
Pippin, Millard Franklin, Jr.	Va.	Plunkett, Harold Drummond, Jr.	Tex.
Pirilla, Genese Vincent	Pa.	Plyer, Alfred Hutchinson	
Pistek, Georgiana	Va.	B.S. in M.E. 1948, Rice Institute	D.C.
Pitchford, Leslie Lee, Jr.	Va.	Plyer, Betty Lou Robinson	Pa.
A.B. 1948, Roanoke College		Plyer, Charles Herbert, Jr.	
Pitman, Park Ware	Tex.	Plwymer, Ray Earl	
Pitner, Robert James	Miss.	B.S. 1948, Pennsylvania State College	Va.
B.S. 1948, Mississippi State College		Poch, Donald Richard	N.J.
Pitt, Hannah Harriet	D.C.	Pocino, Vincent Angelo	D.C.
Pitt, Harry	N.Y.	Podolski, Gerald Anthony	Va.
Pitt, Laud Rolland	Minn.	Poe, Robert Vernon	Md.
A.B. 1938, Northwestern University		Poe, Warren Clayton	N.Y.
A.M. 1935, A.B. in L.S. 1938, The George Washington University		Poel, William Elias A.B. 1947, Brooklyn College	N.Y.
Pitt, Mary Libeau	Va.	Poenicke, Charles Frederick, Jr.	Ohio
Pitt, William Arthur	Calif.	Pogany, Irma	D.C.
Pittenger, Myrman	Md.	Pogostin, Sidney Lee	D.C.
Pittiglio, Clayton Lawrence	D.C.	Ponus, Robert Bedford, Jr.	Pa.
Pittle, Victor	D.C.	Pohala, Helen Louise	
Pittman, John Lee	Va.	B.S. 1947, New York University	D.C.
Pittman, Robert Julian	D.C.	Pohl, Marian Evelyn	
Pitts, Denver Collin	Ohio	B.S. 1943, A.M. 1944, Duke University	
Pitts, Eulalia Edwards	D.C.	Poland, John Jay	Va.
A.B. 1945, University of Richmond		Polanskey, John, Jr.	Pa.
Pitts, Vaden Stein	D.C.	Polaschik, Stephen	Vi.
Piver, Julius S.		Poljaskic, Helen	Mina.
B.S. 1948, The George Washington University		Polk, Joan Carol	
Pixley, Louise	D.C.		

Polk, Leon W.			
Polk, Matthew Steele			
Pollack, Jerome Lee	Okla.	Potter, Stanley Eugene	W. Va.
B.S. 1945, Franklin and Marshall College	D.C.	Potts, Bertha Charlotte	Calif.
Pollack, Leonard	D.C.	A.B. 1916, San Jose State College	
Pollard, John Ray	Pa.	Potts, Jack Hufman	N.C.
Pollard, William Otis	Del.	Potts, Paul R.	Va.
Pollin, Albert	Va.	Pou, Betty Jane	Va.
Pollock, Daniel Carroll	D.C.	Poulase, Guss N.	D.C.
Pollock, Robert Emmett	Calif.	Pound, Evelyn Ruth	Fla.
Pollus, Charles Howard	Va.	Powdermaker, Paula Claire	N.J.
Poiatroy, Albert Bernard	Wash.	Powell, Alfred Allen	Va.
Pommer, Alfred Michael	Md.	Powell, Charles Montagu	D.C.
A.B. 1941, Grinnell College	Iowa	Powell, Danty Mildred	D.C.
M.S. 1947, University of Iowa		Powell, Harry Lee, Jr.	D.C.
Pond, Bert Chauncey	D.C.	Powell, John Frederick	D.C.
Ponder, Peggy Lou	Colo.	Powell, Louis Bertrand	Va.
Ponow, Deli Arthur	Ill.	B.S. 1926, Virginia Military Institute	
Pons, Alice Jeanne	D.C.	Powell, Patti	Tenn.
Ponte, August	D.C.	Powell, Sally Lou	Ga.
Ponton, Ruth Virginia	Va.	A.B. 1932, Georgia State Woman's College	
B.S. 1917, State Teachers College, Farmville, Va.		Powell, William Alfred	D.C.
Poole, Chester Hyle	N.Y.	Power, Andrew Paul	N.Y.
Poole, Nancy Virginia	D.C.	A.B. 1947, The George Washington University	
Poole, Robert Smallwood	D.C.	Power, Elsie Margaret	D.C.
Pope, Carroll F.	Okla.	A.B. 1919, Coe College	
Pope, Dorothy Ackermann	D.C.	Powers, Albert John	Va.
Pope, Fannie Fairchild	Colo.	A.B. 1919, The George Washington University	
Pope, Harold Eugene	Ky.	Powers, Edgar Chester	N.J.
B.S. in M.E. 1947, University of Kentucky		Powers, Richard Lawrence	D.C.
Pope, James Sterling	Colo.	Powers, William Joseph	Va.
Pope, Patricia Evelyn	D.C.	A.B. 1948, The George Washington University	
Popham, James Edward	Va.	Poznak, Morton	N.J.
Popovich, William George	Pa.	Frage, Otto Charles	Ill.
Poppiti, Elizabeth	D.C.	B.S. in E.E. 1945, Iowa State College	
Porcel, Fernando Osvaldo	D.C.	Pratt, Curtiss Robert	Ill.
Porro, Ralph Anthony	D.C.	Pratt, Diane Harriet	Va.
Porsaa, Henning Johannes	N.Y.	Pratt, Martin Sheppard	N.C.
Port, William Lockhart	Va.	Pratt, Ray Chase, Jr.	D.C.
Porter, Bennet Allen, Jr.	Md.	Pratt, William Leonidas	Md.
Porter, Loran Richard	D.C.	Pravel, Bernarr Roe	Tex.
Porter, Melvin A.	D.C.	B.S. in Ch.E. 1947, Rice Institute	
Porter, Milda Mae	Kans.	Preece, William Martin	D.C.
Porter, Neil Alfred	D.C.	Prencipe, Leonardo	D.C.
Porter, Ruth Florence	Md.	Prencipe, Nicholas Vincent	D.C.
Porter, William Morris, Jr.	Maine	Prendergast, James Francis	Pa.
Poskus, Joseph John	D.C.	A.B. 1928, Lafayette College	
Posnansky, Rosalie Lucille	Mo.	Prentis, Richard Edmond	Mass.
Posner, Martin	D.C.	A.B. 1948, Boston University	
Poss, Rubin V., Jr.	D.C.	Prentiss, Catharine Watkins	D.C.
Post, Beverly Suzanne	Va.	B.S. in Ed. 1946, The George Washington University	
Postcher, Eugene H.	Ariz.	Preslar, Avis McKelvain	Tex.
Postman, Martin Samuel	Va.	A.B. 1939, Baylor University	
B.S. in E.E. 1946, Virginia Polytechnic Institute		Preslar, Stephen Franklin	Tex.
Poston, John William	D.C.	Preslar, Robert Delos	N.Y.
Poston, Met Ray	Tenn.	Pressley, Patricia Smith	Fla.
B.S. 1942, University of Chattanooga		Presto, Ernest Carl	N.Y.
Poston, Raymond Lee	Va.	Preston, Ann Hughes	Va.
Potter, Erma Jane	Pa.	Preston, Lenais Todd, Jr.	D.C.
A.B. 1934, Geneva College		Preston, Rita Marie	N.Y.
Potter, Harmon Sobloski	D.C.	Preston, Shirley Andrew	Md.
A.B. 1945, LL.B. 1937, Columbia University		Preston, Walter Harlan	D.C.
Potter, Holbrook Louis	D.C.	Previte, Charles Richard	N.J.
Potter, Philip Nelson	Md.	Price, Archie Boyce	Va.
Potter, Ralph E.	D.C.	Price, Betty Anne	D.C.
B.M.E. 1945, The George Washington University		Price, Carrie Mae	Va.
Potter, Samuel Clark, Jr.	D.C.	Price, Edward James	N.Y.
		Price, Edwin	D.C.

Price, Elizabeth	Va.	Pugh, Frances Hope	D.C.
A.B. 1941, Columbia University		Pugh, Lindley Coates	Wis.
A.M. 1944, University of Minnesota		Pugler, Elizabeth Eugenia	D.C.
Price, Eve S.	Va.	A.B. 1945, The George Washington University	Wis.
Price, Helen Vera	Md.	Puhr, Francis Peter	
Price, Hoyt Glenn	Va.	B.S. 1941, Marquette University	Va.
Price, James Travis	Tenn.	Pullfey, Robert Earl	
Price, Joseph Lindsey	Va.	B.S. 1937, Jamestown College	D.C.
Price, Milo V.	Nev.	Pullen, Gene Elizabeth	D.C.
Price, Robert Nelson	D.C.	Pullin, Antonia Anna	Md.
A.B. 1948, Haverford College		Pullin, Clarence Morgan, Jr.	D.C.
Price, Roger Carson	D.C.	Pullin, William Jennings	Va.
Price, William Sidway	D.C.	Pully, Lucille	D.C.
Prickett, Claudia Sebeste	D.C.	Pulver, George	Pa.
B.S. 1948, University of Maryland		Pupo, Robert William	Va.
Priddy, Elizabeth LaVerne	Va.	Purcell, Jack Allen	Minn.
A.B. 1943, Westhampton College		Purcell, Patricia Eileen	Md.
Priest, Gilbert Lyman	N.Y.	Purdy, Byron Wilburn	D.C.
Prillode, John Edward	Pa.	Purdy, Ramon Tison	Va.
Prince, Henry Harvey, Jr.	D.C.	Purdy, William Augustus	
Principe, Mary Enrico	D.C.	B.S. 1941, United States Military Academy	N.Y.
Prine, Darlyene Diane	Mich.	Purdy, William Frederick, Jr.	
Pringle, Dorothy Smallwood	Pa.	B.M.E. 1937, Stevens Institute of Technology	Ark.
A.B. 1930, Goucher College		Purifoy, Christine Ethel	Pa.
Printup, Jack Edmondson	N.J.	Purnell, Lewis Roy	
Pritchard, Robert Linton	Va.	B.S. in Ed. 1946, State Teachers College, Kutztown, Pa.	Maine
Proaccino, Joseph Anthony	N.Y.	Purves, Stuart St. Claire	
A.B. 1943, College of the City of New York		B.S. 1931, United States Naval Academy	Va.
Prochko, George	Ohio	Purvis, Curtis Carlisle	N.C.
Proctor, Arthur Edwin	Iowa	Puryear, Hazel C.	Kans.
Proctor, James Randolph	Va.	Putman, Margaret Ada	D.C.
Proctor, Lawrence Barnes, Jr.	D.C.	Putnam, Charles Pickering	Va.
Proctor, Lucy Rebecca	D.C.	Putnam, Lewis Markley	Pa.
Proday, Mary Teresa	Pa.	Putnam, Roland Theodore	
Prodromos, Gregory	Wis.	B.S. 1928, Allegheny College	Md.
B.M.E. 1943, LL.B. 1948, Marquette University		Putnam, Russel Henry	Va.
Profeta, Philip Peter	Md.	Puttermann, Felix Maurice	D.C.
Proffitt, Aanes Laura	D.C.	Puzzini, John	D.C.
A.B. 1945, DePauw University		Pyle, Jane	D.C.
Proffitt, Edith Louise	D.C.	Pynn, George Washington	
A.B. 1938, The George Washington University			
Prokarym, Rosalie Marie	Pa.		
Proschan, Frank	N.Y.		
B.S. 1946, College of the City of New York			
A.M. 1948, The George Washington University			
Protos, Mary	D.C.	Quackenbush, Robert Allen	D.C.
Protos, Matthew James	D.C.	Quackenbush, Robert S., Jr.	Md.
Proudley, George Erwil, Jr.	D.C.	B.S. 1927, United States Naval Academy	N.Y.
B.S. 1948, University of Maryland		Quagliato, Ferdinand	S.D.
Provenio, Anita	N.M.	Quarforth, Carl Donald	
A.B. 1930, University of New Mexico		B.Ch.E. 1946, University of Virginia	Va.
Pruce, Alfred Albert	Md.	Quarforth, Elaine Louise	Mo.
Pruden, John Stephen	Ohio	Quast, Walter Frederick	S.C.
Pruitt, Benjamin Franklin	D.C.	Quattlebaum, Ann Harold	Pa.
Pruitt, Betty Jo	Mont.	B.S. 1941, Winthrop College	Ind.
Pryor, Mary Leah	Ark.	Quay, Robert Alexander	D.C.
Pryor, Ruby L.	Tex.	Quehbenon, Frances Elizabeth	D.C.
Pryor, William Jerome	Va.	Queen, Admiral Dewey	Ky.
Psaki, John Nicholas	Va.	Queen, Elbert Bickley	
Pucci, Gerard Richard	N.Y.	Queen, Francis Vernon	
B.S. 1944, Virginia Polytechnic Institute		A.B. 1941, Berea College	Va.
Pucher, Katharine Lloyd	D.C.	Queen, Jack Reynolds	D.C.
LL.B. 1938, Washington College of Law		Queen, Judy A.	Va.
Puelleriner, Harold Grant	D.C.	Queisser, Richard Curtis	
Puente, Joseph I.	D.C.	B.S. in E.E. 1937, New York University	D.C.
Puett, William Nelson	N.C.	Queenstedt, Warren Daley	Va.
		Queensberry, William Otis	
		B.S. 1943, Virginia Polytechnic Institute	

Quick, Alice McCardell B.S. 1942, Johns Hopkins University	Md.	Rainey, Harlan H. A.B. 1948, University of Tennessee	Tenn.
Quick, Elsie McQueen	N.C.	Rainey, Victor Lawrence	Idaho
Quigg, Barbara Lou	Va.	Rains, Clare Gordon	D.C.
Quigg, Helen	Va.	Rainsbury, Robert Charles	D.C.
Quigley, Calvin Carlyle A.B. 1948, University of Colorado	Va.	Rainville, Edna Leah B.S. 1944, Converse College	Md.
Quill, John James	Mass.	A.M. 1946, Mount Holyoke College	
Quillon, John Henry	Va.	Rajala, William Bernhardt	Md.
Quinby, Bessie McMurray	Va.	Raker, Geraldine Lieblich	Va.
Quinn, Donald Francis	Va.	Raker, Phyllis Ruth	D.C.
Quinn, John B.S. 1928, United States Naval Academy	Tex.	Rakha, Youssef Bahgat	D.C.
Quinn, Joseph Patrick B.S. 1940, University of Utah	D.C.	Raley, John Francis	D.C.
Quinn, Nora Jean	D.C.	Ralph, Dallas John	Mich.
Quinn, Patricia Ann	D.C.	B.S. in E.E. 1948, Michigan College of Mining and Technology	Conn.
Quinn, Richard Harry	Ill.	Ralston, Lawrence Parker	Pa.
Quinnam, John Wilson	Maine	A.B. 1939, Princeton University	
Quintana, Leonardo Ramos	Va.	Rambo, Reginald Rodney B.S. 1933, M.S. 1934, University of Arizona	
Quintrell, John Erskine, Jr. A.B. 1941, The George Washington University	D.C.	M.D. 1938, Harvard University	
A.M. 1947, University of Pennsylvania		Ramisch, Mathew John, Sr.	D.C.
		Ramos, James Mariano	Va.
		Ramos, José R.	D.C.
		Ramsay, Gwendolyn Clare	N.Y.
		Ramsay, James Bertrand	D.C.
		Ramsay, Robert Douglas	Va.
		Ramsay, Robert Theodore	Wash.
		Ramsdell, Ruth Ann	Va.
		Ramsey, Walter Andrew A.B. 1937, A.M. 1939, University of Cincinnati	Ohio
		Rand, Alice Marion	Conn.
		A.B. 1915, Wellesley College	
		Randall, Albert Joseph	Va.
		Randall, Berneita K. A.B. 1948, The George Washington University	Mich.
		Randall, Courtland Stanley	Md.
		Randall, Richard Rainier	D.C.
		Randall, Robert Henry Jr. B.C.E. 1941, The George Washington University	D.C.
		Randel, George William	D.C.
		Randell, Florence Fuller	D.C.
		Randolph, Edgar Reed	Mass.
		A.B. 1946, Yale University	
		Randolph, John Lewis	Va.
		Randolph, Karl Willard	Ore.
		B.B.A. 1942, University of Minnesota	
		Randolph, William Barksdale A.B. 1941, Virginia Military Institute	Va.
		Randolph, William Ferral	D.C.
		Rands, Mary Andrew	D.C.
		Raney, Ann Frances	Va.
		Rankin, Billy Frank	D.C.
		Rankin, Joseph Winfield A.B. 1940, LL.B. 1946, The George Washington University	Va.
		Ransom, Gene Mallard	D.C.
		Ransom, Richard Burtus	Va.
		Ransom, Robert P.	Va.
		Ranvier, Gilberte Louise	D.C.
		Rapaport, Janet Reba	Va.
		Raphael, Paul Martin	N.Y.
		Rapp, Charles Henry A.B. 1948, The George Washington University	Pa.
		Rapp, Raymond Edward, Jr. B.S. 1948, The George Washington University	D.C.
Rabin, Joseph Edward	N.Y.		
Rabinowitz, Fred B.M.E. 1945, College of the City of New York	N.Y.		
Rabinowitz, Jerome Walter B.S. 1947, United States Naval Academy	N.Y.		
Rache, Iris Thelma	D.C.		
Rachels, Thomas Blackstone, Jr.	D.C.		
Racoon, Stanley Arnold	D.C.		
Radcliff, Emmet B.S. in Ed. 1940, Southern Illinois Normal University	Ill.		
Radebaugh, Garnett Barry	Md.		
Raden, Henry	D.C.		
Rader, Glen Shields A.B. 1913, Carson-Newman College	Tenn.		
Rader, Stephanie Czech A.B. 1937, Cornell University	Va.		
Radnor, Fred	D.C.		
Radomski, Jack London B.S. 1942, University of Wisconsin	D.C.		
Raebach, Charles Paul	D.C.		
Raeder, Francis Joseph	D.C.		
Rael, Frank Joe	N.M.		
Raffel, Arlyne C.	N.Y.		
Raffel, Everett Morton A.B. 1943, Brooklyn College	N.Y.		
LL.B. 1948, The George Washington University			
Rafferty, John Gregg	Va.		
Ragsdale, Gerald Hamilton A.B. 1938, Montana State University	Mont.		
Raguet, B. Iona B.S. 1928, University of Minnesota	Minn.		
Rahaeuser, Charles John	N.Y.		
Rainard, Ulric Hubert	Mass.		
Rains, David Latimer B.S. 1948, University of Maryland	Md.		
Raine, Irene Steinitz	D.C.		
Rainear, Hannah Jean	D.C.		
Rainer, Samuel Charles B.S. 1946, Virginia Polytechnic Institute	Va.		

Rappaport, Bernard Raymond	Ill.	Rector, Alfred Rozier	D.C.
Rappaport, Nathan David	D.C.	Redd, Lavinia Lindsay	Va.
Raptes, M. Ted	Ohio	A.B. 1935, Randolph-Macon College	
B.S. 1945, Case Institute of Technology		Redding, John Henry	Mich.
Raring, Frederick William	Pa.	B.S. 1932, University of Michigan	N.Y.
Rasband, James Edwin	D.C.	Reddington, John Patrick	Va.
Rasmussen, Walter Samuel	Va.	Reddle, Victor Leon	N.J.
B.S. in C.E. 1933, University of Wisconsin		Redenius, Josephine Louisa	D.C.
Rasmussen, Wayne David	Va.	Redler, Wellfred Morton	D.C.
A.B. 1917, University of Montana		Redman, Albert William	D.C.
A.M. 1939, The George Washington University		Redman, Louis Daniel, Jr.	D.C.
Rasnic, Carl Jacob	D.C.	Redmiles, Jean Ann	D.C.
Rast, Carolyn Frankum	Md.	Redmon, Harold Bers	W.Va.
B.S. 1940, A.M. 1944, The George Washington University		Reinmund, Charles Bernardt	Va.
Ratain, Howard Irwin	D.C.	Redmond, Robert Lafayette	Ga.
Rath, Robert Karl	Ohio	Ree, John Alva, Jr.	Va.
Rathbone, A. Thomas	N.Y.	Reed, Allan Lorentz	Va.
Ratliff, William Richard	Ky.	B.S. 1911, United States Naval Academy	Ind.
Ratner, Max	D.C.	Reed, Estella E.	Va.
Ratowsky, Max	D.C.	Reed, Hallie Mae	
Rauch, Arthur S.	D.C.	A.B. 1917, The George Washington University	
A.B. 1947, The George Washington University		Reed, Herbert Jackson	N.J.
Rauch, Margaret Letta	Ill.	Reed, Laurie Tully	D.C.
B.S. 1938, University of Illinois		Reed, Max William	Md.
Raum, Jack Ronald	Va.	Reed, Mildred	D.C.
Raum, Lloyd Overton, Jr.	D.C.	Reed, Nancy Binns	
Raum, Phyllis Miriam	D.C.	A.B. 1945, University of California	D.C.
Rausch, Robert Raymond	Ill.	Reed, Ogden Cartwright	Iowa
Raver, Arthur Cornelius	Nebr.	Reed, Richard Carl	
Rawlings, Joseph Edwin, Jr.	D.C.	A.B. 1939, J.D. 1941, State University of Iowa	Va.
Rawnsley, George William	Mass.	Reed, Richard Wells	Mich.
Ray, Camilla	N.C.	Reed, Russell James	D.C.
Ray, Christopher James	D.C.	Reed, William Clark	Pa.
Ray, Claude Madison	Md.	Reed, William Leroy	Ky.
A.B. 1912, Washington and Lee University		Reed, William Smith	
Ray, Henry Burton	D.C.	B.S. 1938, University of Kentucky	W.Va.
Ray, Laurence Victor, Jr.	Va.	M.S. 1940, University of Wisconsin	
Ray, Patricia Jane	D.C.	Reeder, Ronald Ronson	
Ray, Roberta Esther	D.C.	A.B. 1945, Shepherd College	
Ray, Thomas Wilson	Md.	A.M. 1947, The George Washington University	Md.
Ravack, Elton	N.Y.	Reedy, Eugene Erskine	Va.
Raymond, Barbara June	Mass.	Reef, Martha Elizabeth	Calif.
Raymond, Mark Bradford	Md.	Reef, Richard Louis	
Raynor, Marjorie Hildebrandt	N.Y.	A.B. 1948, Stanford University	Va.
Re, Anthony John	N.J.	Rees, William Jackson	Va.
Rea, James Magruder	Md.	Reese, James Conniff	N.Y.
A.B. 1943, University of Maryland		Reeve, Layton Wheeler	D.C.
Rea, Kathryn Minerva	Md.	Reeves, Charles Thomas, Jr.	Ill.
Rea, Martha Woulton	Md.	Reeves, Floyd Orville	Ga.
Rea, Robert Harold	Tex.	A.B. 1938, University of Chicago	
Read, Beryl Roosevelt	Ind.	Reeves, James Haynes, Jr.	
Read, Kenneth Godwin, Jr.	D.C.	B.S. 1917, United States Military Academy	Va.
Read, Mary Sue	Ill.	Reeves, Richard Lewis	D.C.
Reade, Alma Evelyn	Va.	Reeves, Rose	Mass.
B.S. 1941, Madison College		Regan, James Andrew	Va.
Reade, Thomas Calvin	Va.	Regan, Robert Summers	D.C.
Reagan, James Edwin	D.C.	Reges, John Timothy	D.C.
Reagan, Ralph Clifford	D.C.	Reges, Richard Andrew	Md.
Reardon, Robert Eugene	D.C.	Reggie, Frank	N.J.
Reavy, Frederick Anthony, Jr.	D.C.	Reid, Adbert	D.C.
Reback, William	D.C.	Rehloff, Ellen D.	D.C.
Rebert, Richard Ross	Pa.	Reichard, Charlotte	
A.B. 1941, The George Washington University		A.B. 1948, The George Washington University	Pa.
Recktenwald, Constance Eleanor	Pa.	Reichard, Robert William	Fla.
A.B. 1945, University of Pittsburgh		Reichard, Thomas Woodrow	
Recktenwald, William Elmer	N.Y.	B.S. 1948, John B. Stetson University	Va.
B.S. 1948, Purdue University		Reichers, Mary	

Students Registered

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Reichley, Norman Paul	Va.	Reves, Raul Gregorio	Mexico
Reichow, Estelle Vernon	D.C.	B.S. 1946, Georgetown University	
Reid, Alexander Blann	D.C.	Rezroth, Clarence Dewey, Jr.	Pa.
Reid, Burt Allen	D.C.	Reymore, Gerald George	Minn.
Reid, Evelyn Berry	D.C.	A.B. 1941, St. Olaf College	
B.S. 1931, A.M. 1941, College of William and Mary		Reynders, Gaylord Gordon	Pa.
Reid, George Bernard	Va.	Reynolds, Benjamin Joseph, Jr.	R.I.
Reid, George Earl	D.C.	Reynolds, Chester Forrest	Va.
Reid, Grace Ella	Va.	Reynolds, Ethel Delores	D.C.
Reid, James Alfred	S.D.	Reynolds, Floyd Willmont	N.Y.
Reid, James Sharp	D.C.	Reynolds, Garry Stewart	N.Y.
A.B. 1937, Cornell University		Reynolds, George Walbridge	D.C.
Reid, Joseph Bernard	D.C.	Reynolds, Grace Hannah	Va.
Reid, Richard Sterling	Mich.	Reynolds, Margaret Mary	Pa.
A.B. 1943, University of Michigan		Reynolds, Patricia Amelia	Md.
Reid, Ruth Ellen Bull	Va.	Reynolds, William Frederick	D.C.
Reid, William Grant	Ala.	A.B. 1941, Miami University	
Reidelbach, John Albert, Jr.	Va.	Reynolds, William Lavern	Kans.
Reidy, John Cornelius, Jr.	D.C.	Reynolds, William Neville	Va.
Reiffin, Martin Gardner	N.Y.	A.B. 1948, The George Washington University	
B.M.E. 1945, College of the City of New York		Rezanka, Frank Joseph	N.J.
Reilly, Elinor Catherine	D.C.	Rhame, Harold Ellis, Jr.	N.Y.
Reilly, George Kenneth	Wash.	A.B. 1946, Princeton University	
A.B. 1947, The George Washington University		Rhine, Mary Elizabeth	Pa.
Reims, Marcel Chislain	D.C.	Rhoades, Benjamin Anthony, Jr.	Mich.
Rein, Edwin Fowler	Iowa	Rhoads, Robert Jefferson	Ill.
Reiner, Albert Lester	D.C.	Rhodes, Eric Foster	D.C.
Reiner, Burton Jay	D.C.	Rhodes, Hubert McDonald, Jr.	Va.
Reinhardt, Arthur F.	N.Y.	Rhodes, James Joseph	D.C.
Reininger, Doris Elaine	D.C.	Rhodes, Jeanne Audrey	Mo.
A.B. 1948, Hood College		Rhodes, Linwood Adolph	Va.
Reinkings, Carl Louis	D.C.	Rhodes, Robert Donald	Pa.
Reintzel, Malcolm Francis	D.C.	Rhodes, Robert Garrett	Pa.
Reisch, James Reginald	N.Y.	B.S. 1947, University of Pittsburgh	
Reiss, Phillip Kahan	Va.	M.B.A. 1948, University of Pennsylvania	
Reiss, Robert Stewart	D.C.	Rhyme, Otto Crandall	Tex.
Reiter, Alfred William	N.Y.	Rhyne, Brice Wilson	Va.
Reiter, Jack	N.Y.	Rhynsbarger, Robert Whitman	Va.
Reitman, Robert Stephen	N.J.	Ribas, Alfred	N.Y.
Reitman, Seymour George	N.J.	Ribble, Ralph Jackson	Tex.
Rekas, Joseph	D.C.	Rice, Carol Lynn	D.C.
Rellas, John Pericles	D.C.	Rice, Elizabeth Ann	Va.
Rellick, Kathryn Elizabeth	Pa.	Rice, Eugene Worthington	D.C.
Remaley, Charles Bertelle	Md.	B.S. 1943, West Virginia University	
B.S. 1935, Allegheny College		M.S. 1948, The George Washington University	
Remer, Mitchell Leon	Fla.	Rice, Eunice Fay	D.C.
Remington, Joseph Joy	Ohio	Rice, Geraldine Genevieve	Ill.
Remke, Mariann	Ill.	Rice, Gertrude Bruce	Va.
Renborg, Bertil	Va.	Rice, John Lalor	Vt.
A.B. 1948, The George Washington University		Rice, John Wade, Jr.	D.C.
Rendler, Norbert Joseph	Wash.	Rice, Mildred Sherrill	Md.
Renpel, Richard	D.C.	A.B. 1920, University of North Carolina	
B.E.E. 1946, University of Minnesota		B.S. 1931, University of Virginia	
Reno, Raymond Howard	Ind.	Rice, Millard Berger, Jr.	Va.
Rentch, John Kenneth	W.Va.	Rice, Peter Paul	D.C.
A.B. 1939, Concord College		B.S. 1938, State Teachers College, Mansfield, Pa.	
Repak, Peter	Pa.	Rice, Ray Howard, Jr.	Va.
Repetti, Edward McNantz	D.C.	Rice, Virginia Louise	Calif.
Reque, Robert Russell	D.C.	A.B. 1947, University of Southern California	
Reque, Rose Bertha	D.C.	Rich, Donald Jenkins	Va.
Resh, David Lewis	D.C.	Rich, Francis Earl	Miss.
Resnick, Alleck Albert	Md.	B.S. 1941, United States Naval Academy	
A.B. 1947, Western Maryland College		Rich, Irene Silverman	D.C.
Resnick, Esther	D.C.	B.S. 1940, Wilson Teachers College	
Retzlaff, Bernice Ruth	Nebr.	Rich, Peter Michael	D.C.
B.S. 1945, University of Nebraska			
Reuschlein, Richard Watson	Md.		
Raverdin, Daniel Louis	D.C.		

Rich, William Wallace	Va.	Rikkind, Doris May	D.C.
A.B. 1931, Emory and Henry College		B.S. 1943, Wilson Teachers College	Ohio
A.M. 1944, The George Washington University		Riggle, Dorothy	Fla.
Richards, Alfonso	N.Y.	Riggs, Annette Mosher	Va.
Richards, Barton Morgan	Va.	Riggs, Bradner Charles	D.C.
Richards, Eleanor Hamby	N.M.	Riggs, Edwin Eugene	D.C.
Richards, Glenn Davis	Va.	Rigsby, Austin Morgan	D.C.
Richards, James Carlin	Va.	Rihl, Mary Lois	Va.
Richards, Julian Imbrie, Jr.	Md.	Rike, Joe Austin	
Richards, Ralph Julian, Jr.	Va.	B.S. 1948, Wilson Teachers College	D.C.
Richards, Suzanne Virginia	D.C.	Riley, Charles Francis	Mont.
A.B. 1948, The George Washington University		Riley, Jeremiah Thomas	N.Y.
Richards, William Robert	D.C.	Riley, John Nathan	R.I.
Richardson, Charles Grant	D.C.	Riley, Lester Anthony	D.C.
Richardson, Edward Eugene	Ind.	Rimko, Velma Mae	
B.S. in E.E. 1943, Rose Polytechnic Institute		A.B. 1945, Bethany College	Pa.
Richardson, George William	Md.	Rinaldi, Eugene	Wa.
B.S. 1941, The George Washington University		Rindlsbacher, Arthur William	
Richardson, Henry A.	Va.	B.S. 1947, State Teachers College, Eau Claire, Wis.	Va.
Richardson, Howard Robertson	Va.	Riner, William Carter	Va.
A.B. 1927, Elon College		Ring, Emily Schmite	Va.
A.M. 1932, College of William and Mary		Ring, Jack Austin	N.C.
Richardson, Joan Margaret	D.C.	Ring, Paul Donald	D.C.
Richardson, Marcia Elizabeth	D.C.	Ringe, Carolyn Sandberg	Va.
Richardson, Marjorie Lillian	Fla.	Rinker, Grace Mahon	
B.S. 1947, University of Florida		A.B. 1932, Ohio State University	Va.
Richardson, Samuel Churchwell	Ala.	Risdon, John Louis	D.C.
Richardson, Thomas Totten	Va.	Riseling, John Joseph, Jr.	D.C.
Richardson, Walter John	Conn.	Rishty, Leo Morris	W.Va.
Richardson, William Albert	D.C.	Rissler, Robert Uraim	
Richheimer, Walter Francis	Ohio	A.B. 1947, Shepherd College	D.C.
Richeson, Leon Delbert	Ill.	Ristig, Charlotte Elsie	D.C.
Richmond, Lionel	Va.	Ritchey, Aubrey Laurence	Pa.
Richmond, Louis	N.Y.	Ritchey, Mary Ruth	
Richmond, Susan Virginia	D.C.	A.B. 1947, Mount Holyoke College	Va.
A.B. 1917, Randolph-Macon Woman's College		Ritchie, Calvin Donald	Md.
Richter, Richard Martin	D.C.	Ritchie, Frederick Monks	Va.
Richwine, Francis Kost	Pa.	Rittenhouse, Jeanne	D.C.
B.S. 1941, Pennsylvania State College		Ritter, Colin	
Rickards, Herbert Betz	Mich.	B.S. 1941, Wilson Teachers College	Va.
Rickers, Ruth Emma	Iowa	Ritter, George Wesley	
Ricketts, Max Verne	Kans.	B.S. 1932, Roanoke College	Va.
Ricketts, Noble George	D.C.	Ritter, John Wesley	Ill.
Ricketts, Robert Lee	Va.	Ritter, Julius Charles	Tex.
Rickey, Evelyn Mae	Va.	Rittmann, Dean Vincent	D.C.
Rickey, Isabelle Mary	Tex.	Ritta, Roy Elliot, Jr.	
A.B. 1947, The George Washington University		A.B. 1948, The George Washington University	D.C.
Ricklis, Henry	D.C.	Ritzenberg, Albert	D.C.
Riddell, Edward Leo	Va.	A.B. 1942, University of Maryland	
Riddick, William Marion, Jr.	Va.	Ritzenberg, Madeleine Snowden	
Riddle, Evelyn Sue	D.C.	B.S. 1940, Woman's College of the University of North Carolina	Puerto Rico
Ridgeway, Jesse Edward	D.C.	Rivera, Andres	Puerto Rico
A.B. 1946, The George Washington University		Rivera, Carmen Dolores	Puerto Rico
Ridolfi, Placido Francis	D.C.	Rivera, Emilio	Puerto Rico
Ridpath, Robert Vance	Ind.	Rivera, Fernando Jose	Md.
Rieber, William James	N.Y.	Rixon, George E.	Va.
Ruecken, Richard Charles	Ohio	Rixee, John Albert	D.C.
Rielly, Thomas Hooper	Pa.	Rizik, Jacqueline Suzanne	
Ries, Carl Gilbert	Wyo.	A.B. 1916, Trinity College	D.C.
B.S. 1947, University of Wyoming		Rizik, Michel	N.Y.
Rieur, Renan	N.J.	A.B. 1948, Amherst College	N.Y.
Rikkind, Bernard David	Conn.	Rizzo, Ann Concietta	Pa.
B.S. 1941, Temple University		Roa, Arturo	D.C.
		Roach, Francis Joseph	Ohio
		Roamer, James Mahan, Jr.	D.C.
		Roane, Melvin Chester	D.C.
		Roark, Mary Kathleen	D.C.
		Robb, David Nelson	
		B.S. 1948, University of Chicago	D.C.
		Robb, George Marion	

Robb, James Lawrence, Jr.	Va.	Robertson, Jean P.	Iowa
Robbin, Joseph Sigmund	D.C.	B.S. 1940, University of Iowa	
Robbins, Ann D.	Mass.	Robertson, John Alpheos	Calif.
A.B. 1945, Wellesley College		Robertson, Joseph William	Tex.
Robbins, Chandler Seymour	Mass.	B.S. 1947, Agricultural and Mechanical College of Texas	
A.B. 1940, Harvard University		Robertson, Roger E.	Md.
Robbins, Edward Morris	Md.	B.S., M.S. 1942, Massachusetts Institute of Technology	
A.B. 1948, The George Washington University		Robertson, Sterling Clark	Va.
Robbins, Glenn Kingsland	Mo	Robertson, Wesley	D.C.
B.S. in Ch.E. 1947, Washington University		Robertson, Wilbert Joseph	D.C.
Robbins, Jesse	D.C.	Robertson, Zola Blair	Va.
Robbins, Lois M.	Va	Robey, Joseph Gray	D.C.
Robbins, Louis Peters	D.C.	Robey, Richard Edward	D.C.
Robbins, Peggy Joan	D.C.	Robicheau, Dorothy Cecilia	Md
Robbins, Roy Edward	N.Y.	Robin, Bennett Allen	D.C.
Robbins, Walter Lewis	D.C.	Robin, Eugene Debs	D.C.
Roberson, Elbert Belmont	D.C.	B.S. 1946, M.S. 1947, The George Washington University	
Roberson, James Edgar	D.C.	Robin, Rosemary Jamesina	D.C.
Roberson, James Richardson, Jr.	Va	Rohinette, Marian Strom	Md.
Roberson, John Milton	Va	Rohinette, Raleigh Carson	Md.
Roberson, William Donald	D.C.	Robins, James Edward	Nebr.
Roberts, Austin Leonard	N.J.	Robins, Leonard	N.Y.
A.B. 1941, College of William and Mary		Robinson, Alfred Arnold	
LL.B. 1948, The George Washington University		B.S. in M.E. 1912, Agricultural and Mechanical College of Texas	
Roberts, Ben Lomond	Md.	Robinson, Alice Lucile	Ohio
Roberts, Beverley Ford	Va.	A.B. 1914, Baldwin-Wallace College	
A.B. 1948, University of Virginia		Robinson, Anna Marion	N.Y.
Roberts, Beverley Jean	D.C.	B.S. 1914, Cornell University	
Roberts, Charles Gilbert, Jr.	Md.	Robinson, Betty Lou	Md
B.S. 1934, Springfield College		Robinson, Cora	D.C.
Roberts, Charles Monroe	Tex.	A.B. 1948, University of Pittsburgh	
Roberts, Donna Louise	Va.	Robinson, Earl Howard	D.C.
Roberts, Edward Howell	Okla.	Robinson, Edgar Louis, Jr.	D.C.
Roberts, Everett Earl, Jr.	Conn.	Robinson, Erika Lote	Va.
B.S. 1940, United States Naval Academy		Robinson, Eugene Bell	Nebr.
Roberts, Henry, Jr.	N.I.	Robinson, Grace Geneva	Mo.
Roberts, Heyward Bradford	Md	Robinson, Harold	Colo.
B.S. 1924, United States Military Academy		Robinson, Jack William	Md.
Roberts, James Franklin	Md.	Robinson, James L., Jr.	Va
Roberts, James Winfield, Jr.	Va.	Robinson, John Wesley	D.C.
Roberts, Jennings Nicholas	W.Va.	Robinson, Lester James, Jr.	D.C.
A.B. 1939, Morris Harvey College		Robinson, Louis	D.C.
LL.B. 1943, LL.M. 1945, Georgetown University		Robinson, Milton Frederic	D.C.
Roberts, John R.	Ind.	Robinson, Norman Julian	Calif.
Roberts, John Summerfield, Jr.	D.C.	Robinson, Parker B., Jr.	Md.
B.S. 1941, University of Virginia		Robinson, Peter Arthur	Maine
Roberts, Leslie Charles, Jr.	Iowa	Robinson, Quentin Roosevelt	Md.
Roberts, Lincoln Edwin	Fla	Robinson, Robert Strother	Va.
Roberts, Margaret	D.C.	Robinson, Ruth Sweeney	Va.
Roberts, Marshall Lee	D.C.	A.B. 1921, Trinity College	
Roberts, Mary Martitia	D.C.	Robinson, Thomas Adams	D.C.
Roberts, Nancy Catherine	D.C.	Robitscher, Jonas Bond, Jr.	D.C.
Roberts, Pauline	D.C.	A.B. 1942, Brown University	
Roberts, Perry Leonard	Ind.	J.D. 1948, The George Washington University	
B.S. 1938, Oklahoma Agricultural and Mechanical College	Va.	Robson, Daniel Francis	D.C.
Roberts, Richard Edwin	D.C.	Robson, June Elizabeth	Va.
Roberts, Richard Mansfield	D.C.	Roby, Allan Barkhurst	D.C.
LL.B. 1948, The George Washington University		Rock, Doris Lorraine	D.C.
Roberts, Russell Meade	D.C.	Rock, Herman Henry	Wash.
Roberts, Thomas Arthur	D.C.	B.S. 1942, Washington State College	
Robertson, Alvin Franklin	D.C.	Rocke, Lucian Loring, Jr.	Pa.
Robertson, Bedford Shelton, Jr.	D.C.	A.B. 1947, Harvard University	
Robertson, Charles Edwin	D.C.	Rocker, Lillian Shelton	Ga.
Robertson, Jack Rodney	D.C.	B.S. 1942, Georgia Teachers College	
	Idaho	Rockowitz, Jerome Bernard	N.Y.
		Rockwell, Chester Scott	Va.
		A.B. 1947, Shepherd College	

Rockwell, Franklin A. A.B. 1941, Shepherd College	Va.	Rohrer, Carl Pepper A.B. 1931, LL.B. 1933, The George Washington University	Va.
Rockwell, Hilleary Cleveland B.S. 1946, Fayetteville State Teachers College	Md.	Rohrer, William James	D.C.
Rodas-Garcia, Adela	Puerto-Rico	Rohrs, Beverly Ann	Md.
Rodda, Harry Edwin	Va.	Rolfe, Cloyd Mayne	Va.
Rodenbeck, Frederick Ludwig A.B. 1940, A.M. 1941, University of Nebraska	D.C.	Roll, Constance Boles	N.Y.
Rodenki, Donald Lee	D.C.	Roll, Stephen	N.Y.
Rodgers, Frank Allen	D.C.	A.B. 1948, Johns Hopkins University	D.C.
Rodgers, George Leo, Jr.	D.C.	Rollins, Alma Frances	D.C.
Rodgers, Marjorie Virginia	Pa.	B.S. 1945, Wilson Teachers College	D.C.
Rodgers, Philip Ray B.S. 1930, M.S. 1940, University of Utah	D.C.	Rolnick, Robert Franklin	Md.
Ph.D. 1947, American University		Rolph, John Fletcher	Va.
Rodgin, David W.	D.C.	Roman, James A.	Conn.
Rodriguez, Berta	D.C.	Romanoff, Melvin	Pa.
A.B. 1942, Texas College of Mines and Metallurgy		Romansky, George Joseph	N.Y.
Rodriguez, Elias Carl	Tex.	Romer, Abraham Russell B.S. 1940, College of the City of New York	Md.
A.B. 1941, Southern Methodist University		Romero, Theodore Robert	Pa.
LL.B. 1948, Georgetown University		Romett, Joseph Henry	D.C.
Rodriguez, Luis Octavio	Puerto Rico	Rommel, Wilfred H.	Pa.
A.B. 1941, The George Washington University		Rood, George Henry	
Rodriguez, Juan Jose	Nicaragua	A.B. 1910, University of Florida	Md.
Rodwell, Victor William	D.C.	Roof, Michael Kitching	D.C.
Roe, Jon Olavson	D.C.	Rook, Cleo Wayne	Wash.
Roeple, Duane Henry	Va.	Rooney, William Albert	Calif.
Roesch, Carl Joseph	Mich.	Roop, William Bahney	Mich.
A.B. 1948, Denison University		Roosevelt, Diana	N.Y.
Roessing, Marcia Grier	N.Y.	Rosas, Robert Vincent	Ill.
Roessler, Alexander	D.C.	Root, Blake Smith	
Roetzl, William Clark	Ark.	B.S. 1937, Monmouth College	
Rogal, William Walter	Va.	A.M. 1911, University of Illinois	D.C.
Romers, Charlotte David	Ky.	Roper, Lloyd Richard	Va.
Romers, David Russell	Mo.	Ropp, Wade Brown	Pa.
Romers, Edward Baldwin	W.Va.	Roque, Robert Marciano	D.C.
A.B. 1947, Shepherd College		Rorman, Harry Eugene	Va.
Romers, Elizabeth Carson	N.J.	Rorrer, Troy Doyle, Jr.	Neb.
A.B. 1947, The George Washington University		Rosakrans, Ruth Isabelle	N.Y.
Romers, George Johnston	Calif.	Rosh, Stanley B.B.A. 1938, College of the City of New York	N.J.
Romers, Harold John	Md.	Rose, Alan Conrad B.S. 1944, Massachusetts Institute of Technology	W.Va.
Romers, Iffie Clarence	N.J.	Rose, Amil Edward	D.C.
Romers, John Storay	Va.	Rose, Carl Leon	W.Va.
Romers, Mary Trainham	D.C.	Rose, Charles Jules A.B. 1942, The George Washington University	Pa.
Romers, Rachel Cauldwell	Wis.	Rose, Donald Lewis B.S. in Ch.E. 1947, Pennsylvania State College	N.Y.
Romers, Rejinal	D.C.	Rose, Gareth Westbrook A.B. 1944, University of Toronto	D.C.
Romers, Roger Joseph	D.C.	Rose, Handres	D.C.
Romers, Sidney	Md.	Rose, Herbert Edgar	Va.
Romers, Thomas Alphonso	Iowa	Rose, Jeanne A.B. 1933, College of William and Mary	Va.
Romers, William Gene	Va.	Rose, Ruth Butterworth	Md.
Romers, William Michael	D.C.	Rose, William George, Jr.	Va.
Romers, William Milton		Roseberry, Mary Gregory	Tex.
Rorg, Nathaniel Hyman A.B. 1934, A.M. 1935, New York University	Pa.	B.S. 1942, Madison College	
Rogosky, Pauline Anne	Tex.	Roseborough, William Daniel B.S. 1940, United States Naval Academy	
Rogstad, Nora Martha B.B.S. 1926, University of Texas	N.Y.	M.S. 1945, Massachusetts Institute of Technology	Mass.
Rohland, Leo	Pa.	Roseman, Byron David	N.Y.
Rohlf, Paul Anthony	D.C.	Rosen, David Selig	D.C.
Rohman, Hobart H.	Va.	Rosen, Herbert Harry	D.C.
Rohman, W. Carolyn	Pa.	Rosen, Sam	
Rohrbaugh, Phyllis Josephine A.B. 1947, The George Washington University			

Rosen, Zelda	D.C.	Rossi, Henry	R.I.
Rosenberg, Barbara Claire	D.C.	Rossi, Marian Elizabeth	D.C.
Rosenberg, Hyman Louis	D.C.	Rossiter, Ernestine Shier	Va.
Rosenberg, Morris	D.C.	Rosson, Barbara Ruth	D.C.
Rosenberg, Seymour Morton	N.Y.	Rotella, Mary Rosalee	N.C.
B.E.E. 1944, College of the City of New York		A.B. 1945, Meredith College	
Rosenberg, Walter Saul	D.C.	Rothberg, Samuel B.	Va.
Rosenberg, William Theodore	Ohio	Rothenberg, Morris	N.Y.
Rosenberger, Mary Jane	Va.	A.B. 1941, Cornell University	
Rosenblatt, Harry Myer	N.Y.	Rothgeb, John Martin	Va.
Rosenblatt, John Jacob	D.C.	Rothman, Leonard Julian	N.Y.
Rosenblum, David Joseph	D.C.	Rothman, Sam	N.Y.
Rosenblum, Stephen Clyde	D.C.	B.S. 1943, Long Island University	
Rosendorf, Betty R.	D.C.	Rothstein, Nathaniel	N.Y.
Rosendorf, Stanley Bernard	Md.	Rotkin, Irving Jacob	N.Y.
B.S. 1948, University of Maryland		B.S. in M.E. 1946, Virginia Poly- technic Institute	
Rosenon, Vivian Carmel	D.C.	Rotman, Maria Elisabeth	D.C.
Rosenthal, Alan Henry	D.C.	Rotnem, Eugene Orbeck	Wis.
Rosenthal, Albert Herman	N.Y.	A.B. 1947, University of Hawaii	
Rosenthal, Bernard	D.C.	Rotnem, Iris Mittelstadt	Wis.
Rosenthal, Donald Currie	N.Y.	Rottenberg, Jacob Bear	R.I.
Rosenthal, Elsie Jean	D.C.	A.B. 1942, The George Washington University	
Rosenthal, George	D.C.	Rottenberg, Seymour Abner	D.C.
Rosenthal, Harold	Md.	Rotz, Carl Fredrick	D.C.
Rosenthal, Joseph	N.Y.	Roubideaux, Ramon Arthur	S.D.
A.B. 1939, Brooklyn College		Roudabush, Robert Mackey	D.C.
A.M. 1940, Columbia University		Roughton, Aurelian Ernest, Jr.	Va.
Rosenthal, Melvin Stanley	D.C.	Rouleau, James Petrie	D.C.
Rosenthal, Myra Natalie	D.C.	Rouleau, Wilfrid Glasgow	D.C.
Rosenthal, Sidney	D.C.	A.B. 1942, Catholic University of America	
Rosett, Richard Nathaniel	N.J.	Roumel, Theodore Constantine	D.C.
Rosewag, Nicholas Raymond, Jr.	Md.	A.B. 1944, The George Washington University	
Rosin, Marlowe Richard	D.C.	Roundtree, William Howard	Fla.
Rosinski, Donald Carl	D.C.	Rourke, Francis John	D.C.
Rosner, Oscar Herman	Md.	Rousar, Edward Everett	Okla.
Rosoff, Frieda	D.C.	Rousseau, Louis Chapman	D.C.
Ross, Bob	D.C.	Rovner, Louise Miriam	D.C.
Ross, C. Hildegard	Va.	B.S. 1934, New Jersey College for Women	
B.S. 1933, State Teachers College, Farmville, Va.		Rovner, Philip	D.C.
Ross, Daniel Michael	Tenn.	A.B. 1948, The George Washington University	
A.B. 1946, The George Washington University		Rovner, Sara	Pa.
Ross, Florence Elaine	Pa.	Rowan, Eugene Francis	N.Y.
Ross, Gerald	N.Y.	B.S. 1945, University of Virginia	
Ross, Guy Eliot	Ohio	A.B. 1948, Mills College	Calif.
Ross, Harry, Jr.	Md.	Rowan, John Carye	Pa.
Ross, Helen Elizabeth	D.C.	Rowan, Peter Peer	Va.
B.S. 1948, The George Washington University		Rowand, Roger Benjamin	Conn.
Ross, Ian Kenneth	D.C.	Rowe, Frank Joseph	N.J.
Ross, Irving Jerome	N.Y.	Rowe, George Frederick	Md.
A.B. 1948, Brooklyn College		Rowe, Joan	D.C.
Ross, James Harold	D.C.	B.S. 1944, University of Maryland	
Ross, Joseph Hunter	Md.	Rowe, Kathleen Wilson	D.C.
Ross, Leo H.	N.Y.	Rowe, Shirley Case	D.C.
Ross, Marvin Stanley	D.C.	Rowe, Willis Case	D.C.
Ross, Mary Elizabeth	Md.	Rowell, Leroy Arthur	Maine
Ross, Ronald McKenzie	D.C.	Rowell, Russell	Va.
Ross, Ruth	N.J.	Rowen, James Ross	Ind.
A.B. 1946, The George Washington University		Rowitz, Bernard	N.J.
Ross, Samuel B.	D.C.	A.B. 1948, Rutgers University	
A.B. 1921, Pitt University		Rowland, Doris Ruth	Va.
A.M. 1923, Ph.D. 1931, Columbia University		Rowlett, Francis	Utah
Ross, William Hicks	D.C.	A.B. 1935, University of Utah	
Rossen, Jack Leopold	Va.	Rowley, Basil George	Va.
Rosser, Elizabeth Burnley	D.C.	Rowse, Katharine Louise	Va.
Rosser, Faye Quick	D.C.	Rowse, Charles Alfred	D.C.
B.S. in Ed. 1939, Madison College			
Rosser, William Joseph	Va.		

Roxon, Daniel	N.Y.	Ruiz, Leobardo Carlos	D.C.
A.B. 1940, Brooklyn College		Ruiz, Madelene G.	N.Y.
Roy, Miriam Ellen	W.Va.	Rullen, Frank Raymond	Ill.
Roy, Wallace Edward	D.C.	Rullman, Anne Harris	Va.
Royce, Margaret Esther	D.C.	Rumbough, William Samuel	D.C.
Roynance, Donald Carvar	Md.	B.S. in E.E. 1937, A.M. in Ed. 1946, The George Washington University	D.C.
Rozansky, Beverly Ruth	D.C.	Rumley, Lucy Johnston	D.C.
Rozo, Jorge Gomez	Va.	Runkle, Denton William	Md.
Rozzelle, Frederick Russell	Md.	Runnion, Barbara Diane	D.C.
Ruark, Eugene Henry	D.C.	Runyan, Robert Laymon	N.Y.
Ruark, James Clay	D.C.	B.S. 1930, College of Wooster	Pa.
Ruben, Annette	W.Va.	Ruof, George Christian	N.Y.
Ruben, Carl Irwin	Md.	Rupert, Mary Martha	N.Y.
Ruben, Louis Leonard	W.Va.	Ruscher, Harold, Jr.	Mo.
Ruben, Max Samuel	N.Y.	Rush, Joseph Edward	
Rubenstein, Sanford	N.Y.	B.S.E. 1937, Fitchburg State Teachers College, Mo.	Va.
Rubenstein, Thelma Etienne	D.C.	Rushing, Betty Jo	D.C.
Rubenstein, Vida Ellen	Ga.	Rushing, David Edward	
Rubin, Ann	N.J.	B.S. 1935, M.S. 1938, University of Alabama	N.C.
Rubin, Arnold Donald	D.C.	Russ, Robert Barrett	
B.S. 1943, College of the City of New York		A.B. 1940, University of North Carolina	Va.
Rubin, Marvin	Md.	Russell, Anne Carter	D.C.
Rubin, Sally Maxine	N.J.	Russell, Betty Lucile	D.C.
Rubin, Samuel Benjamin	D.C.	Russell, Denver Lee	
Rubin, Sherwin	Pa.	A.B. 1947, Mount Union College	D.C.
Rubini, Fausto Frank	Md.	Russell, Harry Earle, Jr.	
B.S. 1935, University of Wisconsin		A.B. 1947, University of Michigan	D.C.
Rubinstein, Brena	D.C.	Russell, Helen Louise	D.C.
Rubinstein, Irvin	Md.	Russell, James Miller	Va.
Rubinstein, Nathan	D.C.	Russell, John Blair	D.C.
Rubinstein, Norman Hartley	D.C.	Russell, Joseph Grayson, Jr.	D.C.
Ruble, Anne Wagnick	Mass.	Russell, Kenneth Monroe	Kans.
Ruboy, Jordan Sumner	Calif.	Russell, Melvin Lewis	N.D.
Ruch, Delbert DeVillo	W.Va.	Russell, Myrtle Ellen	
Ruckel, Neti Florence	Va.	A.B. 1944, The George Washington University	Md.
Rucker, Martha Cosby		Russell, Ray	W.Va.
A.B. 1936, University of Richmond		Russell, Ronald Lee	D.C.
Ruczko, Joseph Anthony	Md.	Russell, Stanton Best	Va.
Rudd, Velva Elaine	D.C.	Russell, William Augustine, Jr.	Mo.
B.S. 1931, North Dakota Agricultural College		Russell, William David	
Ruddell, George Randolph	Md.	A.B., LL.B. 1938, University of Missouri	Md.
Ruddock, Harold Douglas	Calif.	Russell, William Fred	Pa.
Ruddy, Alice Marie	D.C.	Russell, Yvonne Louise	W.Va.
B.S. 1940, Marywood College		Russo, Mary Orton	Pa.
Ruddy, Ann Clare	D.C.	Ruszkiewicz, Joseph Edward	D.C.
B.S. 1936, Marywood College		B.S. 1948, University of Pittsburgh	Pa.
Rudes, Christina	N.J.	Ruth, Celia M.	D.C.
Rudewick, William Kenneth	D.C.	Ruth, Joseph Young	
B.S. in Ed. 1948, State Teachers College, Millersville, Pa.		Rutland, Herbert Ross, Jr.	D.C.
Ruditz, David	N.Y.	Rutledge, Jean Ann	
Rudolph, Ella Jackson	Va.	A.B. 1947, Indiana University	Va.
B.S. 1941, Madison College		Rutledge, John	D.C.
Rudy, Lester Eugene	D.C.	Rutz, Edward Arthur	Ala.
Rue, Audrey Hazel	D.C.	Ryals, Carthy Rowway, Jr.	Pa.
Ruebel, Ralph Alexander	N.Y.	Ryan, Charles Patrick	D.C.
Ruesch, Alida Edith	Calif.	Ryan, Dennis Leary	Va.
Ruess, Dorothy Ann	Pa.	Ryan, Edward Francis	Pa.
Ruff, Bryson LaMar	Md.	Ryan, Edward Joseph	R.I.
Ruff, Robert Raymond	D.C.	Ryan, Edward Thomas, Jr.	Pa.
Ruffner, Ralph Windsor		Ryan, Jack Thomas	Vt.
A.B. 1935, University of Maryland		Ryan, James Anthony	
A.M. 1940, The George Washington University		B.S. 1940, College of the Holy Cross	N.Y.
Rugen, Barbara Dorach	N.Y.	LL.B. 1947, Cornell University	N.Y.
A.B. 1943, College of Wooster		Ryan, James Joseph	
Rugen, Paul Robert	N.Y.	Ryan, Joan Lorey	
B.S. in Ed. 1940, Rutgers University		A.B. 1948, The George Washington University	
Ruiz, Amelia Mary	N.Y.		
Ruiz, Elizabeth	D.C.		

Ryan, John Clifford A.B. 1947, Iowa State College of Agriculture and Mechanic Arts	D.C.	Sagner, Charles Edward, Jr. A.B. 1947, University of California	D.C.
Ryan, John Powell	Md.	Sailer, Jessie Bradbury A.B. 1939, A.M. 1940, University of Kansas	Va.
Ryan, John Thomas A.B. 1948, West Virginia University	W.Va.	St. Clair, John Gilbert	Va.
Ryan, John Wynne A.B. 1942, Dartmouth College	N.Y.	St. John, Charles Richard	Ohio
Ryan, Mary Dolores A.B. 1947, The George Washington University	Md.	St. John, Jack Viacher	Md.
Ryan, Rita Marie	N.Y.	St. Louis, Mary Maurice	D.C.
Ryan, Robert Edwin	N.Y.	Saintsing, Richard Lyle	N.C.
Ryan, Robert Emmet B.S. 1947, Temple University	Pa.	St. Thomas, Dorothy Laird	Ala.
Ryan, William Edward B.S. in E.E. 1943, B.S. in Math. 1943, University of Michigan	D.C.	Saito, Sachio	D.C.
Ryder, Elizabeth Margery	N.Y.	Saiz, Antonio	D.C.
Ryder, James Andrew	Conn.	Sakai, Akira	D.C.
Ryder, Robert Burton	Mass.	Sakai, Hiroshi	Hawaii
Ryland, Mildred Suzanne A.B. 1944, Mary Washington College	Va.	Sakelatis, Dennis John	D.C.
Rykhus, Douglas Joseph	S.D.	Sakotky, Harry	Pa.
Rymer, Thomas Arrington B.C.E. 1948, Cornell University	D.C.	Salawas, Adele Bernadette	Pa.
		Salah, Elisabeth	Roumania
		Salas, Helen	Pa.
		Salisbury, Donald	Va.
		Salikowitz, Harvey	Pa.
		A.B. 1947, University of Pittsburgh	
		Salladay, David Eugene	D.C.
		Sallas, Gustav Adolph	D.C.
		Salmon, Albert James	D.C.
		Salmon, Ralph Franklin	Pa.
		Salomon, Barbara Irene	D.C.
		A.B. 1946, University of Chicago	
		Salter, Elliot Arnold	R.I.
		B.S. in M.E. 1946, Brown University	
		Saltra, Edwin Arthur	N.Y.
		A.B. 1940, Long Island University	
		Salzer, Jay Blaine	Pa.
		B.S. in Ed. 1937, State Teachers College, Bloomsburg, Pa.	
		Salvati, Saverio R.	D.C.
		Salvatierra, Lorenzo Gascon	D.C.
		Salzberg, Calvin David	N.Y.
		Salzhorn, Lorraine Muriel	N.Y.
		Salzberg, Ruth	D.C.
		Salzman, Max Herbert	N.Y.
		Samaha, Leslie Halim	Va.
		Samakow, Beverly Retha	D.C.
		Sames, Mary Ann	Mo.
		A.B. 1947, University of Missouri	
		Samonski, Helen	Mass.
		Samowitz, Charles Sidney	N.Y.
		B.M.E. 1948, College of the City of New York	
		Samples, Ramona	Va.
		Sampson, Courtney Howard	Mass.
		Samson, Chester Page	Okla.
		Sammel, Virginia Marion	Wis.
		Samuels, Joseph Paul	W.Va.
		B.S. 1946, University of West Virginia	
		Samuelson, Frederick Clarence	Ill.
		Samuelson, Kenneth Robert	Ill.
		Sandborn, Henry Norris	Md.
		Sanchez, Agustin	Colombia
		Sanchez, Ben P.	N.M.
		Sanchez, Burdette Boardman	Pa.
		Sanchez, Henry G.	N.Y.
		B.S. 1930, United States Naval Academy	
		Sandeen, Charles Edward	Va.
		Sander, Dora	Md.
		A.B. 1942, Radcliffe College	
		Sanders, Benjamin	Holland
		Sanders, Donald Earl	Va.
		Sanders, Frank Powell	N.C.
Saalfrank, Joy Catherine A.B. 1948, The George Washington University	D.C.		
Saaty, Thomas Lorie A.B. 1947, Western Maryland College	Md.		
Saba, Michael	Pa.		
Saba, Olazola	D.C.		
Sabatini, Edmund John	N.Y.		
Sabella, Muriel Marceline	D.C.		
Sabine, Edward Bliss	D.C.		
Sabot, Allen	N.Y.		
Sabula, Paul Stephen	Pa.		
Saccardi, Clarence Richard	D.C.		
Sacharnoski, Stephen	N.I.		
Sacharoff, Victor	N.I.		
Sackett, Albert Monroe	Iowa		
Sackman, Robert	N.Y.		
Sacko, Walter Francis	Pa.		
Sacks, Jacob Milton	D.C.		
Sacks, Lester Leslie	N.Y.		
Sacks, Saul	N.Y.		
Sadler, Emmett Garner	D.C.		
Sadowski, Larry Valery	Mich.		
Sadowsky, Gersten B.M.E. 1947, College of the City of New York	N.Y.		
Sadur, Hillard Erwin	Md.		
Sadur, Marvin Phillip A.B. 1947, The George Washington University	D.C.		
Saenz, Julian Hindjosa	D.C.		
Saffelle, Meta G.	Va.		
Saffitz, Abraham Alan A.B. 1936, Cornell University	N.Y.		
Safford, Lawrence Frye B.S. 1932, United States Naval Academy	D.C.		
Sagendorf, Jack Bertolotto	Va.		
Sager, John Harmer A.B. 1946, Princeton University	D.C.		
Saginor, Irving	N.Y.		
Sagle, Robert Franklin	Md.		

Sanders, John Albert	Pa.	Saunders, Nancy Nell	D.C.
A.B. 1948, The George Washington University		Saunders, Patricia Anne	Va.
Sanders, Lee Steele	D.C.	Saunders, Pauline Elizabeth	D.C.
Sanders, Lowell Lawrence	Ind.	B.S. in Ed. 1930, University of Ohio	D.C.
B.S. 1940, Indiana University		Saunders, Roger Lane	Va.
Sanders, Philip	N.Y.	Saunders, Ruth Anne	N.Y.
Sanders, Ralph Byron	Md.	Saunders, Sidney	Ga.
Sanders, William Gerard	D.C.	Sauveur, Stephen Irvin, Jr.	Va.
Sanderson, Agnes Isabel	D.C.	Sauveur, Anita Belle	Ga.
Sanderson, Sue Elizabeth	Va.	Savage, Carl Preston, Jr.	Tenn.
Sandiford, George William	Pa.	A.B. 1948, University of Georgia	
Sandmeyer, Melvin Wesley, Jr.	D.C.	Savage, Howard Lane, Jr.	D.C.
Sandoz, George	D.C.	A.B. 1948, Vanderbilt University	D.C.
B.S. 1943, Wayne University		Savage, Julian	D.C.
M.S. 1945, University of Michigan		Savage, Nancy Lee	D.C.
Sands, Arthur Gorton	D.C.	Savage, Robert Frank	D.C.
Sands, Courtland William	D.C.	A.B. 1943, Whitworth College	N.J.
Sands, Lillie I. Petersen	Nebr.	Savage, Walter Benedict	Calif.
Sandt, Anna Becker	Pa.	Savage, William Alvin	
A.B. 1947, The George Washington University		A.B. 1930, Stanford University	D.C.
Sandwick, Marilyn Jane	D.C.	Savarese, Charles Joseph, Jr.	
Sandy, William Haskell	Md.	A.B. 1941, University of North Carolina	D.C.
Sanford, Edith Smith	Va.	Savary, George Alexander	D.C.
B.S. 1945, State Teachers College, Farmville, Va.		Saver, Alan David	S.C.
Sanford, Marion Elizabeth	D.C.	Saverance, Carolyn McNair	
Sanger, Raymond Frederick	Va.	A.B. 1940, Winthrop College	Md.
Sangster, Harold Lee	Md.	Saville, John William	D.C.
B.S. in E.E. 1939, The George Washington University		Savitt, Jacob	
Sanner, Donald F.	D.C.	B.S. 1948, Carnegie Institute of Technology	Va.
Sansoucy, Robert Louis	Maine	Sawyer, John William	N.Y.
Sansum, Lauane Earl	Calif.	Sayers, William Walter	Ill.
A.B. 1947, University of California		Saylor, Mary Louise	Pa.
Santana, Pablo J.	Puerto Rico	B.S. 1936, University of Illinois	D.C.
Santoro, Vincent H.	Pa.	Saylor, James Burton	N.Y.
Saperstein, Jean Marjorie	D.C.	Saylor, James Willis	Va.
A.B. 1946, University of Richmond		Scalfidi, Alfred	La.
Sappenfield, Keith Mynes	Ind.	Scalise, Frances Mary	Md.
Sarakanych, Helen	Pa.	Scanlan, Sidney Joseph	Md.
Sarasin, Pong S.	Md.	Scanlan, Thomas Russel	Md.
Sargent, Faith	N.H.	Scanlon, Mary Patricia	Md.
Sargent, Lucius Lyman	D.C.	Scarborough, James K.	Va.
Sarich, John Thomas	Oreg.	Scariot, Angelo John	
Sariego, Audie	D.C.	A.B. 1948, The George Washington University	Va.
Sarla, Charles Richard	Va.	Scarow, William Arthur	Minn.
Sarosi, Oliver	Md.	Schaap, Marie	
B.C.S. 1928, University of New York		A.B. 1930, Calvin College	N.J.
Ph.D. 1936, Royal Hungarian University		Schach, Saul	N.J.
Sartor, John Douglas, Jr.	S.C.	Schachtel, Norman Herman	Arg.
Saska, Stanley Derby	D.C.	Schade, Ruth Elizabeth	D.C.
Sass, Tauba H.	Pa.	Schaefer, Vivian Rochester	D.C.
A.B. 1944, M.A. 1947, University of Pennsylvania		Schaefer, William John	D.C.
Sather, Roy Oscar	Mich.	Schaeffer, Jean Lupton	N.M.
B.S. in E.E. 1940, Wayne University		Schaffer, Frederick	
Sato, Edward Hifumi	Hawaii	B.S. in C.E. 1935, The George Washington University	Va.
Satterfield, George Whitney, Jr.	Va.	LL.B. 1928, Georgetown University	Kans.
Sauber, Frank	D.C.	Schaffer, William Thomas	N.Y.
Sauer, Elizabeth	Ill.	Schaffert, Justin Clark	
Saul, Norma Helen	D.C.	Scham, Milton	D.C.
Sauls, John Clinton	Ga.	B.S. 1943, College of the City of New York	D.C.
Saunders, Charles Turney	D.C.	Schankel, Norman George, Jr.	D.C.
Saunders, Edward Earl	N.Y.	Schantz, Wilmer Shelly	N.Y.
B.S. 1917, Alfred University		Schappart, Joseph Matthew	N.Y.
B.S. in E.E. 1920, Massachusetts Institute of Technology		A.B. 1948, Queens College	Pa.
Saunders, George Everett	Va.	Schatz, Bernard	D.C.
Saunders, Mariellen	D.C.	Schatz, Elizabeth Jayne	D.C.
Saunders, Marie Caroline	D.C.	Schatz, Louis	
		Schatsman, Joan Harolyn	

Schatzow, Arthur B.S. 1943, University of New York	D.C.	Schmidt, Donald Gerry B.S. 1942, University of Washington	Mont.
Scheckel, William Howard	Md.	Schmidt, Frederick Jost	D.C.
Schechter, Roger M. A.B. 1947, Dickinson College	Pa.	Schmidt, Julius Henry, Jr.	Calif.
Schoerer, Carl Russell	Va.	Schmidt, Richard Frederick	D.C.
Scheetz, Carlton Frank	Calif.	Schmidt, William Edward	Md.
Scheffres, Eugene	D.C.	B.S. 1941, The George Washington University	
Scheffrin, Richard Edward	D.C.	Schmidt, William Francis	N.Y.
Scheinine, Dean	D.C.	Schmier, Hilda Frieda	Md.
Schell, Edwin Austin	D.C.	Schmit, Gaylord John	D.C.
Schell, Emil D.	D.C.	Schmit, George Christopher	Nebr.
Schellack, Catherine Allen	Va.	Schmit, Page Marston	Md.
Schellenberg, Paul Herbert	Va.	Schmitt, Samuel Arthur	Ill.
Schellhorn, Adrienne Barry	Md.	B.S. 1947, University of Chicago	
Schelsnes, Ole Christen	Wis.	Schmoyer, Mary Elizabeth	Va.
B.E.E. 1940, Central State Teachers College, Wis.		Schnapp, Carl Bernard	N.Y.
Scheltens, Johannes Lorenzo	Md.	Schneberg, Rosalyn	D.C.
Scheltens, Rudolf Siegfried	Md.	A.B. 1949, The George Washington University	
Schenck, Florence Alice	Va.	Schneider, Betty Louise	D.C.
Schenck, Frank Whitson	N.C.	Schneider, David Taylor	Mass.
Schenck, Joseph Samuel	N.C.	A.B. 1947, Yale University	
Scherer, Barbara	Mo.	Schneider, Dorothy Elizabeth	La.
Scherer, Solomon	N.Y.	Schneider, Ella Kathryn	Colo.
A.B. 1949, The George Washington University		B.S. 1941, Colorado Woman's College	
Scherff, Roger Alan	D.C.	Schneider, Herbert Henry	N.Y.
Scherini, Otto Axel	Calif.	A.B. 1947, New York University	
B.S. 1932, United States Naval Academy		A.M. 1948, The George Washington University	
Schermerhorn, Floy Mann	D.C.	Schneider, Homer James	Va.
Schermerhorn, Lloyd Andrew	D.C.	B.S. 1942, University of Wisconsin	
A.B. 1931, University of Rochester		Schneider, James Philip	D.C.
A.M. 1937, Clark University		Schneider, Louis	N.Y.
Schick, Irvin Henry	Pa.	Schneider, Walter Henry	N.J.
Schick, Rene Alberto	D.C.	B.S. 1943, Virginia Polytechnic Institute	
Schiffman, Harold	Mass.	Schneiderman, Jeremiah	N.Y.
Schifter, William	N.Y.	Schneiders, Joseph Matthew	D.C.
Schiller, Alvin	Va.	Schnell, William Cardigan	Pa.
Schiller, David Mulford	Pa.	Schnellbacher, Emil Elmo	D.C.
B.S. in E.E. 1948, Carnegie Institute of Technology		Schnider, Martin Livingston	Md.
Schilling, Daniel Joseph	D.C.	Schnipper, Herbert	Jamaica
Schimmel, Ruth Sonia	Md.	Schnitman, Edward Perry	Md.
B.S. 1947, University of Richmond		A.B. 1938, The George Washington University	
Schindler, Paul	D.C.	A.M. 1948, Yale University	
Schindler, Ronald Edward	Md.	Schnopp, Maude Hite	Md.
Schindler, William Rhyner	Wis.	Schocket, Charles Lewis	N.J.
Schkolnick, Herman	D.C.	Schoem, David	N.J.
Schlaifsteyn, Rachmill	Va.	Schoen, Richard David	Va.
Schleeper, Gerald George	Ill.	Schoen, Robert Joseph	Va.
Schlemeier, Nancy Early	D.C.	Schoen, Stephen Michael	D.C.
Schlemeier, Todd Edward	Mo.	A.B. 1943, Harvard University	
Schlemmer, Roy Ramon	D.C.	A.M. 1947, University of Maryland	
Schlesinger, Daniel	Va.	Schoeneman, Robert Lee	D.C.
Schlesinger, Jean	D.C.	B.S. 1947, The George Washington University	
Schlesinger, Joan Muriel	N.J.	Schoengold, Stanley	N.Y.
Schletter, Martin Sheldon	N.J.	Schoff, Fredric Anthony	Ill.
Schlopak, Aaron David	N.Y.	Schofield, Graham	Ill.
B.S. 1938, College of the City of New York		Schofield, Jack Hughey	Va.
Schlossberg, Sara Anne	D.C.	Scholtz, Edward Karl	Md.
Schlotzhauer, Mona Harries	Va.	Scholz, Walter Ernst	D.C.
Schlup, Dean Edward	Ohio	Schonberger, Eugene	Va.
Schlup, Lester Alexander, Jr.	D.C.	Schoolfield, Nellie Louise	W.Va.
Schmalzer, Henry Walter	Pa.	Schoonmaker, Eugene Vrooman	Md.
Schmedel, William Carl	Wis.	Schoonover, Jobe Edward	Va.
Schmertz, Robert Colgan, Jr.	Pa.	Schraitle, Arthur William	Va.
B.S. in E.E. 1943, Princeton University		Schram, Dorothy Jean	D.C.
Schmid, Erwin	D.C.	Schreiber, Earl Tobias	Pa.
B.S. 1934, Haverford College		B.S. 1929, United States Naval Academy	

Schreiber, Sam	D.C.	Schwartz, Joseph Brewer	Md.
Schreiner, Margaret Abramitis	N.Y.	Schwartz, Julius Louis	N.Y.
Schreiner, Stanley Warner	Va.	A.B. 1947, New York University	D.C.
Schreyer, Charles Henry	D.C.	Schwartz, Morton Julius	N.Y.
Schrier, C. Esther	N.Y.	Schwartz, Norman	N.Y.
Schroder, Donald Elizabeth	N.Y.	Schwartz, Robert Charles	Md.
Schroeder, Andrew Jackson	D.C.	Schwartz, Simon	D.C.
Schroeder, Leo	Wis.	Schwartz, Simon Joseph	D.C.
Schrott, Elaine Esther	Va.	Schwartz, Stuart Irwin	D.C.
Schrumpf, Jeanne Marie	D.C.	Schwartzbach, Saul Marvin	Va.
B.S. 1947, Pennsylvania State College	Kans.	Schwartz, Albert Paul	Md.
Schubert, Coralie Williams		Schwartz, Frederick Charles	
A.B. 1916, Baker University		B.S. in Ed. 1938, Panzer College of	
A.M. 1945, The George Washington		Physical Education and Hygiene	D.C.
University		Schwartz, Harry Emanuel	Va.
Schuirmann, William Carter	D.C.	Schwartzman, Bernice F.	D.C.
A.B. 1940, Pomona College		Schwartzman, Estelle	N.Y.
Schulke, Ruth Dillon	Va.	Schweiger, Irving	
A.B. 1931, University of North		B.B.A. 1930, College of the City of	Va.
Carolina		New York	Ill.
Schulkin, Morris	N.Y.	Schweizer, Raye Rosenbeck	
A.B. 1930, Brooklyn College		Schweizthal, Robert John	
M.S. 1948, The George Washington		B.S. 1948, Loyola University of	D.C.
University		Chicago	D.C.
Schulman, Mortimer	N.Y.	Schweitz, Edwin Paul	
Schulman, Sidney	Va.	Schweitzer, Britt John	D.C.
Schulten, Carl Lang	Pa.	B.S. 1947, American University	D.C.
Schultz, Herman David	N.Y.	Schweitzer, Robert John	D.C.
Schultz, John Hooker	D.C.	Schweitzer, Walter Gareld, Jr.	
Schultz, Theodore Arthur	D.C.	B.S. 1947, American University	D.C.
B.S. 1948, Capital University		M.S. 1948, University of Michigan	Va.
Schultz, William Harrison	Pa.	Schweser, Alfred Joseph	D.C.
Schulz, William Charles	Wis.	Schwichtenberg, Alan Edward	D.C.
B.S. 1948, University of Wisconsin		Schwier, Orville Roy	Minn.
Schuman, Larry	N.Y.	Scoff, Frederick William	
Schumann, John Charles	Pa.	B.S. in M.E. 1943, University of	
Schuppert, Eric Adolph	D.C.	Minnesota	D.C.
Schuppert, Louis Albert	D.C.	Scoggin, Ellen Cooney	Md.
Schurer, Harry Robert	D.C.	Scoggins, Charles Robert	D.C.
Schurter, Marjorie Ann	D.C.	A.B. 1948, University of Maryland	N.Y.
A.B. 1944, Pomona College		Scollon, Kenneth Marz	D.C.
Schussler, John D.	D.C.	Score, LeRoy John	N.Y.
B.S. 1930, Gettysburg College		Scott, Albert Peter	N.Y.
Schuster, Anne Marie	D.C.	Scott, Alice Dorothy	
Schuster, Ernest M.	D.C.	Scott, Bertha Wickliffe	N.Y.
Schuster, Louis Frederick, Jr.	D.C.	A.B. 1934, Winthrop College	
Schuster, William Thomas	D.C.	Scott, David Alan	
Schutz, Frederick Adolph, Jr.	D.C.	A.B. 1938, Princeton University	
B.S. in Ed. 1947, University of		A.M. 1946, Columbia University	D.C.
Pennsylvania		Scott, Folsom Miko	N.Y.
Schutz, Jack Jacob	D.C.	Scott, Gerald Leroy	Va.
A.B. 1948, The George Washington		Scott, Irkerman Collins	Va.
University		Scott, James Le Roy, III	Va.
Schutz, Melvin	D.C.	Scott, Joseph Raymond, Jr.	
A.B. 1948, The George Washington		Scott, Loretta Eastman	
University		A.B. 1948, The George Washington	Va.
Schwyler, Stanley	Va.	University	Pa.
Schwyler, William Joseph	D.C.	Scott, Owen Woody	Va.
A.B. 1947, Trinity College		Scott, Patricia Ann	D.C.
Schwab, Patricia Alice	Va.	Scott, Pattie Jane	Va.
Schwab, Robert Dean	D.C.	Scott, Richard Gordon	
Schwab, Alice Jacqueline	D.C.	Scott, Roger Frederick	D.C.
Schwartz, Bella	D.C.	B.S. 1927, United States Naval	D.C.
A.B. 1944, The George Washington		Academy	D.C.
University		Scott, Russell Bert	D.C.
Schwartz, Ben	D.C.	Scott, Thomas James	
Schwartz, Dorothy Louise	Ohio	Scott, Wilbur Newton	Va.
A.B. 1947, The George Washington		A.B. 1948, West Liberty College	Md.
University		Scruggs, Claude Greene	Va.
Schwartz, Harryette	D.C.	Scruggs, William Joseph	
Schwartz, Helen Janet	D.C.	Seudder, Ione Campbell	
Schwartz, Herbert	D.C.	B.S. in Ed. 1931, University of	
Schwartz, Irving	D.C.	Tennessee	

Seabrooke, William Harvey, Jr.	D.C.	Seigel, Irving Marvin	D.C.
Seadler, Stephen Edward	N.Y.	Seigel, Shirley Florence	D.C.
Seal, Alan Gordon	D.C.	Seiple, Stanley Herkimer	Conn.
Seal, Frank Walker	D.C.	A.B. 1949, University of Connecticut	
Seal, Morgan Swain	D.C.	Seiwell, William James	D.C.
Seale, John Arthur	Tex.	Sejen, Herman William	D.C.
A.B. 1943, The George Washington University		Sekas, Nick John	D.C.
Seaman, Jean Wilson	D.C.	Sekimura, Robert Sues	Hawaii
Seaman, Leslie Thomas	N.Y.	Selbee, Thomas McClure	Va.
Sequist, Ruth Ellen	D.C.	Seldenright, Doyle Webster	Mich.
Search, Cecile Flanke	D.C.	A.B. 1941, M.B.A. 1942, University of Michigan	
Search, Harry Edwin	Pa.	Selen, Mary Ellen	Va.
Searcy, Clara McCormick	Okla.	Seley, Florence L.	D.C.
A.B. 1933, University of Enid		Selson, Henry David	D.C.
Sears, Earle Vincent	D.C.	Seligman, Ellen	D.C.
Sears, Lillian Floyd	Okla.	Selkowitz, Lawrence Emanuel	Mass.
Seay, Charles Fillmore	D.C.	Sellers, Lucy Mariah	D.C.
Seay, Ralph Matthew	Va.	Selhorn, Willis Herman	Nebr.
Seay, Shirley Anne	D.C.	Seltzer, Orie	D.C.
Sebastian, Elsie	Conn.	Selzer, George Bernard	N.H.
Sebastian, Robert, Jr.	N.Y.	B.S. 1942, University of New Hampshire	
Sebastian, Virginia Jean	Conn.	Semmes, John Gibson	D.C.
Sebastiani, Angelo James	Pa.	Semmes, Luette Goodbody	Md.
B.S. 1947, University of Scranton		A.B. 1948, Vassar College	
Sebold, James Thomas	D.C.	Semple, Malcolm McEwen	D.C.
Seborer, Miriam Z.	N.Y.	B.S. 1949, American University	
A.B. 1939, Hunter College		Senar, Isabel Agnes	D.C.
A.M. 1940, Columbia University		Sensigawa, Thomas Joseph	N.Y.
Seckinger, Daniel Lamont II	D.C.	Sendejo, Serapio L.	Tex.
Secula, John David	Pa.	Sendindiver, John Frederick	D.C.
Seddig, Mohammed	D.C.	A.B. 1948, Bridgewater College	
Sedlack, Emanuel Joseph	Md.	Senft, Oscar Leo	Okla.
Sedmak, Michael Edward	Pa.	Senn, Homer Alexander	S.C.
A.B. 1949, Muhlenberg College		Sennello, Francis George, Jr.	N.Y.
Seed, Richard Warren	Wash.	Sentman, Harold Albert	Va.
B.S. 1944, California Institute of Technology		Sergeant, Audrey Lou	D.C.
Seelbach, Verner	D.C.	Sergeant, Russell Chauncory	D.C.
Seebold, Robert Elvin	D.C.	Sergeant, Russell Lewis	D.C.
Seeger, Edward Gustave	Va.	Servais, Raymond	Wis.
Ph B. 1942, University of Wisconsin		Servidio, Salvatore	D.C.
Seegrift, Theo Lorraine	Va.	Sestokas, John Michael	Pa.
A.B. 1947, The George Washington University		Sethack, Abraham Charles	D.C.
Seehusen, Robert Frank	D.C.	Severe, Doris Wilmar	Md.
Seekins, Forest Raymond	N.Y.	Severe, Everette	Md.
Seese, Norman Alexander, Jr.	W Va.	Sewerin, Marilyn June	D.C.
A.B. 1918, Bridgewater College		Sewerine, Robert Lou	Okla.
Sefton, Robert Dorsey	Va.	Seward, Edgar Carl	Va.
Segal, Bernard Rubin	D.C.	Seward, Morton W.	D.C.
Segal, Gladys Ruth	N.J.	Sexton, John Montgomery	D.C.
Segal, Henry Louis	Minn.	Sextert, Harry David	D.C.
B.S., L.L.B. 1941, University of Minnesota		Seven, Victor Emil, Jr.	Belgium
Segal, Janet Miriam	Md.	Seymour, John Aloysius	Md.
A.B. 1945, The George Washington University		Sfarnas, James George	D.C.
Segal, Rena Greenblatt	D.C.	Shaar, Camille M.	Fla.
Segal, Stanley	Mass.	A.B. 1941, Pomona College	
Seganish, William Emory	D.C.	M.S. 1947, Rensselaer Polytechnic Institute	
Segars, John Clarence	Fla.	Shaar, Nancy Crum	Ill.
Seguin, Dorothy Pittenger	Minn.	Shackelford, Covington	Va.
Seibert, Wauweta Belle	Wash.	Shaddix, William Newton	N.Y.
Seidel, Arthur Harris	D.C.	Shade, Casper Henry	D.C.
B.S. 1942, College of the City of New York		Shade, James Russell, Jr.	Va.
A.M. 1941, University of Michigan		B.S. in Ed. 1940, State Teachers College, Millersville, Pa.	
Seidler, Robert Joseph	Va.	Shade, Lavern Paul	Md.
Seifart-Centurion, Hugo J.	N.Y.	Shadowen, Cyril Eugene	Ohio
Seigel, Arnold Elliott	D.C.	Shafer, Alice Janet	Iowa
B.S. 1944, University of Maryland		Shafer, Elroy John	Wyo.
M.S. 1947, Massachusetts Institute of Technology		Shafer, Fred James	Md.
		Shafer, Ralph Maurice	D.C.
		Shaffer, Donovan Keith	Mont.
		Shaffer, Earl Edward	W Va.

Shaffer, Moreen Belle	Ohio	Shaw, Irwin Vincent	N.Y.
Shaffstall, Lyle Meade	Pa.	Shaw, Jackson Carr	N.J.
Shaheen, Michael Edmund	Mass.	Shaw, Margaret	Ala.
B.S. 1938, Boston University		Shaw, Oliver Abbott, Jr.	Miss.
Shaheen, Richard Andrew	Ill.	A.B. 1938, University of Mississippi	
Shairrick, James Elmer	Ark.	Shaw, Robert Harrison	Va.
Shaller, Herman I.	N.Y.	A.B. 1940, Carroll College	
A.B. 1941, Brooklyn College		A.M. 1941, University of Wisconsin	Pa.
Shalowitz, Ernest Maurice	D.C.	Shaw, Russell Ellwood	N.Y.
Shalowitz, Erwin Emmanuel	D.C.	Shaw, William Miller	D.C.
B.C.E. 1947, The George Washington University		Shay, John Kenneth	Va.
Shamansky, Anna	D.C.	Shay, Michael	D.C.
Shamie, Emile Robert	N.Y.	Shea, Catherine Virginia	Va.
Shamigian, Zoyart	D.C.	Shea, Corienne Helen	D.C.
Shampain, Leon	N.Y.	Shea, Joseph A.	Mass.
Shandelmier, Ernest William	Pa.	B.S. 1942, Boston College	
Shane, Margaret Brinkerhoff	D.C.	A.M. 1945, Harvard University	
A.B. 1948, The George Washington University		Shea, Richard Francis	Mass.
Shank, Robert Edgar	Md.	Shea, Robert Tracy	Va.
Shanklin, Emily Shacklett	Md.	Sheaff, H. Joan	Nor.
Shanks, Jane Elizabeth	Md.	A.B. 1948, Skidmore College	Va.
Shanks, Oscar Eugene	Md.	Shear, Catherine Elizabeth	Md.
Shannon, Cynthia Farrall	Md.	Shearer, Nancy Lee	Md.
Shannon, John Elmer, Jr.	D.C.	Shearer, Stanley Lewis	Md.
B.S. 1948, Philadelphia College of Pharmacy and Science	Pa.	Shearin, Plummer Mustian	
Shannon, Joseph Robert, Jr.	Tex.	B.S. 1936, Wake Forest College	D.C.
Shapiro, John Joseph	Md.	Sheasley, Alfred Wilmer	D.C.
Shapiro, Annette Rena	D.C.	Sheedy, Thomas Patrick	Va.
B.S. 1948, University of Maryland		Sheehan, Edward Patrick	D.C.
Shapiro, Daniel Murray	N.Y.	Sheehan, James Francis	D.C.
A.B. 1948, Columbus College		Sheehan, William Francis	N.J.
Shapiro, David	N.Y.	Sheeran, James Joseph	D.C.
Shapiro, Goodwin	N.Y.	Sheeskin, Jacob	D.C.
Shapiro, Gustave	D.C.	Sheets, Evelyn Sydnor	
Shapiro, Harry Alan	D.C.	A.B. 1926, Carson-Newman College	
Shapiro, Herbert Irving	D.C.	B.S. in Ed. 1929, University of Virginia	Mass.
B.S. 1948, The George Washington University		Sheff, Irving	
Shapiro, Laura Leib	N.Y.	A.B. 1948, The George Washington University	Va.
Shapiro, Lois Sylvia	D.C.	Sheffer, Robert Keith	D.C.
Shapiro, Nelson Hirsch	D.C.	Sheffield, Noreen Leahy	Fla.
B.E.E. 1948, Johns Hopkins University		Sheffield, Osceola Kirby, Jr.	D.C.
Shapiro, Nettie Sandra	Ill.	Sheil, John Francis	Conn.
Shapiro, Paul	D.C.	Shetkoff, Lewis Samuel	Iowa
Shapiro, Stanley	D.C.	Shelden, Avery G.	D.C.
Shapley, Charles Leland	Va.	Sheldon, Donald Bruce	Va.
Shapley, Ellen	D.C.	Shelhorse, Aurabelle Maryann	Pa.
Shaff, Adrian Grant	Va.	Shelhorse, George Walter	D.C.
Sharkey, Donald Sidney	Conn.	Shellard, Jennie Boyer	Iowa
Sharkey, James Francis	Pa.	Shelledy, Arthur Doyle	Pa.
Sharkey, Rosemary Elizabeth	Pa.	Shelley, Francis Joseph	N.J.
Sharp, Daniel DeWitt	Mass.	Shelly, George William	Va.
B.S. in E.E. 1939, Northeastern University		Shelly, Herbert Hunter	Mich.
Sharp, Venda Venell	Va.	Shemky, Joseph John	Turkey
Sharratt, George	Kans.	Shenyurek, Eleanor West	
LL.B. 1916, University of Missouri		A.B. 1947, The George Washington University	Okla.
Shattuck, James Wilbur	N.Y.	Shepard, Charlotte Margaret	D.C.
Shattuck, Phyllis Eleanor	D.C.	Shepard, Robert Stanley	D.C.
B.S. 1930, Simmons College		Shepardson, Hazel Gertrude	Va.
Shaver, Pamela Clara	D.C.	Shepard, William Edward	D.C.
Shavin, George	N.Y.	Shepherd, Dorothea Glennie	Md.
Shaw, Andre Marie Pontonnier	Va.	Shepherd, John Henry, Jr.	N.Y.
Shaw, Daryl Winston	Md.	Sheppard, Daniel	
B.S. 1911, State Teachers College, Mansfield, Pa.		A.B. 1948, The George Washington University	Conn.
M.S. in Ed. 1936, Duke University		Sheppard, David	D.C.
Shaw, Dolores	D.C.	B.S. 1936, Yale University	N.J.
Shaw, Elizabeth	D.C.	Sheppard, Elizabeth Anne	Va.
Shaw, Ellen June	D.C.	Sheppard, Eve E.	D.C.
		Sheppard, William Jacob	
		Sheppy, Phyllis	

Sherard, Virginia	Md.	Shingler, Julian James	Ga.
Sherba, John	Pa.	B.S. 1939, United States Coast Guard Academy	
Sherertz, Paul Claiborne	D.C.	Shingler, William Gendron, Jr.	Tenn.
B.S. in E.E. 1943, Duke University		A.B. 1946, University of Missouri	
Sherly, Laurence Polkinhorn	Md.	Shinn, Charles Curtis	Md.
A.B. 1933, LL.B. 1936, A.M. 1947, The George Washington University		Shinnamon, Ruth Stubbs	Va.
LL.M. 1937, Harvard University		Shiozawa, Sam	Idaho
Sherly, Raphael	D.C.	B.S. in Agr. Engr. 1941, Utah State Agricultural College	
A.B. 1933, LL.B. 1936, LL.M. 1938, A.M. in Gov. 1941, The George Washington University		B.S. in E.E. 1948, The George Washington University	
Sheridan, Bernice Segall	Md.	Shipley, Charles Waldron	W.Va.
A.B. 1944, Brooklyn College		A.B. 1942, Shepherd College	
Sheridan, John Patrick	N.Y.	Shipley, Edward George	D.C.
Sheridan, Philip Henry	Mass.	Shipley, George Edward	D.C.
B.S. in E.E. 1944, Worcester Polytechnic Institute		Shipley, John Bruce	W.Va.
Sheridan, Philip Regis	Pa.	A.B. 1940, Shepherd College	
Sheridan, Robert Anthony	D.C.	Shipley, Nancy Kane	Va.
Sherman, Benjamin	N.Y.	Shipman, Harvey Andrew	D.C.
A.B. 1948, New York University		Shipman, Karl Waldo	Mass.
Sherman, Corinne Lenore	Ill.	Shipp, Charles Kenneth	Va.
B.S. 1934, University of Wisconsin		Shipp, Thomas Wooten	D.C.
Sherman, Fred	Va.	Shirey, William Cluff	D.C.
A.B. 1934, University of Oklahoma		Shirk, Gilbert LaRue	Pa.
Sherman, Robert Miller	Tex.	Shirk, Grace Ema	D.C.
Sherman, Sidney	N.Y.	Shirlev, Fred William, Jr.	D.C.
A.B. 1947, The George Washington University		Shirlev, Reginald Douglas	N.Y.
Sherman, Solomon Gaston	D.C.	Shiver, David Hawley	Ark.
Sherman, Vincent Edwin	D.C.	Shivers, Fanita Hollomon	Va.
Sher, Alan Edward	N.Y.	Shlanta, Michael B.	D.C.
Sheriff, Eleanor O.	D.C.	Shneiderov, Anatol James	D.C.
Sheriff, James Edward	Iowa	Shneider, Jack Carl	D.C.
A.B. 1947, The George Washington University		Shobe, John Edgar, Jr.	Md.
Sherwin, Herbert David	Mass.	Shockey, Evelyn Louise	Va.
Sherwin, William Winsor	Va.	B.S. 1936, University of Virginia	
Sherwood, Frederick	Va.	Shoemaker, Bernard Robert	Va.
Sherwood, James Manuel Herbert	Mass.	Shoemaker, Carleton Randolph, Jr.	Va.
A.B. 1942, Harvard University		Shoemaker, Randall, Jr.	Va.
Sherwood, James Steck	Va.	Shoemaker, Robert Frank	D.C.
A.B. 1947, The George Washington University		Shoemaker, William Robert	Ala.
Sherwood, John Myers	Va.	Shoenhair, Jack Lawrence	N.Y.
B.S.C. 1940, University of Virginia		Shonick, William	N.Y.
Sherwood, Stacy Charles	Va.	B.S. 1942, College of the City of New York	
Sherwood, Virginia	Va.	Shookman, Loyd Allen	Ind. Ohio
Shesser, Ira	N.J.	Shore, Jacob	
Shettel, Harris Harlan	D.C.	B.S. in M.E. 1946, Illinois Institute of Technology	
Shivokas, William Charles	Ill.	Shore, Parkhurst Alan	D.C.
Shew, Russell Franklin	Md.	Shorit, Charles Addison	D.C.
Shibley, Frances Wilhelm	Va.	B.S. 1947, University of Pennsylvania	
Shields, Benjamin Bayard	Fla.	Short, Claire Anne	Md.
Shields, Bert A.	N.Y.	Short, Clyde Lonnell	D.C.
Shields, Elsie Trigg	Md.	Shortlidge, Anne	N.H.
Shields, James Robert	Md.	A.B. 1941, Smith College	
Shields, Rita Katharine	Mont.	Shostek, Robert	Md.
Shields, Susan Braddy	Md.	A.B. 1937, The George Washington University	
Shifflett, Jean Helene	D.C.	Shott, Mildred Hollander	D.C.
Shifflet, Paul Wilson	Va.	B.S. 1948, Wilson Teachers College	
A.B. 1936, Bridgewater College		Shotwell, Clark Harding	D.C.
Shimabukuro, Masachi	D.C.	Shoup, Wilson Elliott	Va.
Shimberg, H. Lee	N.Y.	A.B. 1937, Indiana University	
A.B. 1939, College of William and Mary		Shove, Lois Aileen	Md.
Shimkus, Daniel Francis	Mass.	Showalter, David Norman	Md.
Shimp, LeVernon Charles	D.C.	Showalter, Ruth Howell	Md.
Shine, Howard Lawrence	Ohio	B.S. 1936, Radford College	
A.B. 1940, Bowling Green State University		Showkeir, Julian Mansour	Va.
Shine, Warren Steven	Mass.	Shreve, Judith Hull	Va.
		Shriver, Jean Elizabeth	D.C.
		Shroyer, Eugene Raymond	D.C.

Shryock, Raymond DeSouville A.B. 1926, LL.B. 1929, University of Pennsylvania	Va.	Silling, Daniel Robert, Jr. Sillman, Dorothy Lillian A.B. 1940, Hunter College	D.C. N.Y.
Shryock, Richard Fuller A.B. 1939, University of North Carolina	Md.	Silva, Harold Silver, Charles Silver, David Henry Silver, Jack Samuel	Tenn. N.J. N.Y. Va.
Shugar, Louise Hughes Shugars, Caroline Louise B.S. in Ed. 1937, Shippensburg State Teachers College, Pa.	D.C. Pa.	Silverberg, Stanley Melvin Silverman, Aaron A.B. 1948, The George Washington University	D.C. D.C.
Shugart, Elizabeth Wise A.B. 1947, Ohio State University	W.Va.	Silverman, David Silverman, Florence EmmaLee	D.C. Va.
Shugg, Doris Drake Shuler, James Benjamin B.S. 1931, Roanoke College M.D. 1935, University of Virginia	D.C. Va.	Silverman, Maurice Bernard Silverman, Norman Simas, Victor R.	D.C. Md. D.C.
Shullenbarger, John Albert Shulman, Fay Janice Shultz, Richard Sylvan B.S. 1944, College of the City of New York	Md. D.C. N.Y.	Simeroth, John William Siminsen, Richard Edwin Simmons, Arthur Edwin Simmons, Chester Robert Simmons, Clara I.	Okla. D.C. Mo. R.I. D.C.
Shumaker, Margaret Blair A.B. 1947, Smith College	D.C.	Simmons, Delford Edgar Simmons, Dorothy Jean Simmons, Earle Mitchell	D.C. D.C. Va.
Shuman, Ida Irene Shuman, Suzanne Shumate, Martha Lee Shumway, Elizabeth R. Shumway, John Rollin B.S. in Ed. 1938, Temple University	D.C. D.C. W.Va. Va.	Simmons, Frank Peter Simmons, Herbert Truxton Simmons, Howard Helmuth Simmons, James Quimbu, Jr. B.S. 1939, Wake Forest College	Pa. D.C. Calif. N.J.
Shundich, Peter Shunny, John Raymond Shupp, Walter Fleming, Jr. Shure, Gilbert Bernard B.S. 1934, Virginia Polytechnic Institute	Pa. D.C. D.C. Va.	Simmons, Joseph Alvin Simmons, Loren Chase Simmons, Richard Paul Simmons, Samuel Lockwood Simmons, Thelma Thompson Simmons, Victoria Urauhart	D.C. D.C. Md. Va. Va. Minn.
Shurtleff, Miller Francis Shuster, Alvin Shute, Kenneth Walter Shutkin, Joseph Jerome A.B. 1947, University of Wisconsin	Utah D.C. Va. Wis.	A.B. 1946, Vassar College Simmons, William Aloysius Simms, Barbara Anne Simms, Charles Francis A.B. 1941, University of Maryland LL.B. 1948, Georgetown University	N.Y. D.C. Md.
Shutt, Mary Frances Shytle, Eleanor Waite A.B. 1943, University of Iowa	Ark. Va.	Simms, Harriet S. B.S. in Ed. 1941, Northern Illinois State Teachers College	Ill.
Siciak, Walter Stanley Sidle, Thelma Blanche Sidwell, James Dudley Siegel, Abraham B.S. 1940, College of the City of New York	Va. Ala. D.C. Calif.	Simms, John Raymond Simms, Shirley Hazen Simon, Alfred Philip B.S. 1947, Rhode Island State College	Md. D.C. D.C.
Siegel, Harry M. Siegel, Jacob Stuart A.B. 1941, A.M. 1943, University of Pennsylvania	D.C. Pa.	Simon, Jeannette Simon, Philip David Simon, Philip James Simon, Roger Oscar Simon, Samuel Louis Simone, Frank Anthony A.B. 1947, Harvard University	N.J. D.C. Iowa D.C. D.C. Ohio
Siegel, Julian Lee Siegel, Ralph A.B. 1948, University of Maryland	Md. N.Y.	Simonetti, Edward Simons, Karl Ernest A.B. 1938, University of California	Mass. Hawaii
Siegfried, Robert Ellwood Siegler, Judith Ellen Sierichs, Helen T. Sifton, Paul Ginsburg Siggers, Marion Colling Siggers, Richard Lawrence A.B. 1949, Columbia University	Ohio Ark. D.C. D.C. Nev. D.C.	Simonsen, Carl David B.S. 1936, University of Wisconsin Simonson, Richard Castellar A.B. 1937, Illinois College A.M. 1939, American University	Wis. Ill.
Sinier, Wendell, Jr. Silbaugh, Richard Walter Silbert, Gerald Melvin Silbert, Leo Siler, Freda E. Siler, Jimmy Crittenden Silk, Harry B.S. in E.E. 1931, Newark College of Engineering M.S. in Phys. 1943, The George Washington University	Md. Iowa Pa. D.C. D.C. Va. N.J.	Simpson, Ethel Irene B.S. in Ed. 1939, Emporia State Teachers College, Kansas M.S. in Eng. 1947, Fort Hays State College, Kansas Simpson, Herman Leroy Simpson, James William, Jr. Simpson, Joseph Simpson, Kenneth Walter, Jr. B.S. 1943, University of Maryland Simpson, Margaret Helen	Md. N.C. Va. Calif. D.C.

Simpson, Robert Ellsworth	Pa.	Skidos, Helen Georgina	D.C.
Simpson, Roxie Collie	D.C.	Skidmore, Jack Hoover	N.C.
A.B. 1932, Meredith College		Skidman, Douglas Benjamin	Va.
Simpson, William Littlejohn	D.C.	B.S. 1942, Pennsylvania State College	
Sims, Andrew Jackson	Miss.	Skinner, Ernest Brown	Kans.
Sims, Ethel G	D.C.	LL.B. 1932, Washburn Municipal	
Sims, Fred Amos	D.C.	University of Topeka	
Sims, Harry Gay	Ark.	Skinner, Henry Ross	Wyo.
A.B. 1936, LL.B. 1938, University of		A.B. 1947, University of Wyoming	
Arkansas		Skinner, John William	Md.
Sinauer, Ernst Maxwell	Va.	A.B. 1932, Wesleyan University	
A.B. 1939, Cornell University		A.M. 1947, The George Washington	
Sinclair, Sheila Ann	D.C.	University	
Sincoff, Janet Zelda	D.C.	Skinner, Leonard Morris	D.C.
Sing, Calvin Jung	Md.	B.S. in Ed. 1935, Missouri State	
Sing, Joseph Lee	D.C.	Teachers College	
Sing, Milton Lee	D.C.	Skinner, Mildred Kolar	D.C.
Singer, Burton Owen	Ohio	Skinner, Paul Artemus	Md.
Singer, Elaine Betty	N.J.	Skoljak, Nathan	N.Y.
Singer, Lawrence Robert	D.C.	Skuba, Helvonne Audrey	Conn.
Singer, Mary Phyllis	S.D.	Skuster, Gladys Irene	Iowa
Singer, Robert Morey	D.C.	B.S. 1933, Iowa State College	
Singer, Robert Yale	N.J.	Slack, William	N.J.
Singer, Stanley Irvin	D.C.	Slaff, Allan Paul	Pa.
Singer, Thomas Eric	Mass.	B.S. 1944, United States Naval	
Singhass, Robert Allison	Va.	Academy	
Singhass, Wester Pritchard	Va.	Slaff, Mary Lee	D.C.
Singleton, Ewell Sam	D.C.	Slafkes, Martin	
Singleton, Julius Knox	Ill.	Slagle, Marjorie Ellen	Pa.
A.B. 1941, Berea College		Slater, Carol Fahy	Va.
Singman, David	N.Y.	Slattery, Frank Joseph	D.C.
Singman, Henry Dick	D.C.	B.S. 1935, Wilson Teachers College	
Singman, Julian Howard	D.C.	Slattery, Huett Harold	Md.
Singo, Betty Ruth	Pa.	Slattery, Richard Edward	Mont.
Sink, Alice Frances	D.C.	B.S. 1932, Montana State College	
B.S. 1943, Madison College		Slattery, Richard Gates	D.C.
Sink, Jane Lee	D.C.	Slaughter, Patricia Anne	Md.
B.S. in Ed. 1943, Farmville State		Slavin, Benjamin	Md.
Teachers College		B.S. 1941, Western Kentucky State	
Sinnsbaugh, James Alexander	Va.	Teachers College	
Sinsky, Anthony John	Wis.	Slavin, Joseph George	N.Y.
Sipe, Sarah Milnes	Va.	Slought, Ann Caroline	Maine
B.S. 1928, Madison College		Slatten, Robert Eugene	N.D.
Sirbauch, Isaac William	Va.	Sleven, William Victor	Iowa
Sirmat, Albert	D.C.	Slieh, Frederick Henry	Va.
Sirota, Milton	N.Y.	Sload, Philip H.	Va.
Sirota, Solomon	N.Y.	Sloan, Richard	Ill.
Sisemore, Hope Laverne	Okla.	Sloanaker, Russell Maul, Jr.	Pa.
Siskind, Eliot Irvin	Md.	B.S. 1943, Pennsylvania State College	
A.B. 1948, Johns Hopkins University		Sloane, Edward Frederick	Md.
Slalen, Ann Helen	D.C.	Slotemaker de Bruine, Jan Rudolph	D.C.
Sissenwine, Norman	N.Y.	Slotower, John Henry	Md.
Sissner, Virginia Lee	D.C.	Slusher, Claude Conley	Va.
Sitcocka, Helen Alice	D.C.	Slw, Robert Dunham	D.C.
Sithens, Edward Samuel	Md.	Smagorinsk, Joseph	Md.
Sitler, Willard Stanley	Pa.	B.S. 1947, M.S. 1948, New York	
B.S. 1938, Pennsylvania State College		University	
Sitz, Glenn William	D.C.	Smale, Ronald Anthony	Pa.
Sivo, Anthony Joseph	Va.	Smalhout, John James	Calif.
Sizemore, Ernest Nolin	Va.	Small, Leonard	N.Y.
Skaggs, Bruce	Ohio	Small, Virginia Provens	Ohio
A.B. 1942, The George Washington		Smart, Janis Adeline	D.C.
University		Smasal, O. Michael	Wis.
Skalak, Rose	N.Y.	Smathers, Spurgeon Ellus	D.C.
A.B. 1939, Hunter College		B.S. 1938, Wake Forest College	
B.S. 1940, Columbia University		Smax, Charles Franklin, Jr.	Md.
Skelley, Joseph Brooks	Va.	Smedley, David	Va.
Skelley, George Martin, Jr.	Cuba	A.B. 1947, University of California at	
Skelley, John Thomas	Cuba	Los Angeles	
Skelley, Marjorie Winifred	Cuba	Smernoff, Stephen David	Conn.
Skelton, James Roger	Va.	Smiley, Frank Herbert	Nebr.
A.B. 1938, Mississippi College		B.S. 1941, University of Nebraska	
Skelton, Robert T.	N.Y.	Smisko, Michael	Va.

Smith, Alan Craig	D.C.	Smith, Harold Calmes, Jr.	Md.
Smith, Alma Marie	N.C.	Smith, Harold Jerome	D.C.
Smith, Audrey Louise	Va.	A.B. 1948, The George Washington University	
Smith, Barbara Anne	Md.	Smith, Harry Raymond	Md.
Smith, Benjamin Williams	Va.	Smith, Harry Wallace, Jr.	Md.
B.S. 1940, Virginia Polytechnic Institute		Smith, Helen Frances	D.C.
M.S. 1947, The George Washington University		Smith, Helen Page	Va.
Smith, Bernard Adrian	Wash.	Smith, Helen Ruth	D.C.
B.S. 1934, United States Naval Academy		Smith, Henry Hewlett	Ga.
M.S. 1942, Massachusetts Institute of Technology		A.B. 1938, A.M. 1942, The George Washington University	
Smith, Betty Jane	D.C.	Smith, Herbert Willard	D.C.
Smith, Bonnie D.	Tex.	Smith, Hugh Edward	N.Y.
Smith, Charles Earl	Md.	B.Ch.E. 1947, Rensselaer Polytechnic Institute	
Smith, Charles Edwin	Va.	Smith, Jackson Wray	Aria.
B.S. 1921, United States Naval Academy		A.B. 1948, The George Washington University	
Smith, Charles Henry, Jr.	Va.	Smith, Iramae Stickney	D.C.
Smith, Charles Reginald	D.C.	Smith, J. Gordon	Md.
Smith, Charles William	N.Y.	Smith, J. Marquis	D.C.
Smith, Chester Horace	Nev.	Smith, Jack Albert	N.M.
Smith, Cornelia Lloyd	D.C.	Smith, Jack Elliot	D.C.
Smith, Daniel Gordon	Va.	Smith, Jack Morgan, Jr.	Ga.
Smith, David Bushnell	D.C.	A.B. 1948, Emory University	
Smith, Delma	D.C.	Smith, Jack Wyman	Tex.
Smith, DeWitt Clinton, Jr.	D.C.	Smith, James Anthony	N.Y.
Smith, Donald David	Md.	Smith, James Merrill	Md.
Smith, Dorothy	D.C.	Smith, James Mitchell	D.C.
Smith, Dorr Newell	Maine	Smith, James Oscar	Va.
A.B. 1947, The George Washington University		Smith, James Warren	Mich.
Smith, Dudley Burcham	Oreg.	B.S. in Ed. 1931, A.M. 1939, University of Michigan	
A.B. 1945, California School of Technology		Smith, Jane Levy	Pa.
B.S. 1945, University of California at Los Angeles		Smith, Jean Chandler	D.C.
Smith, Eben Stoddard	D.C.	A.B. 1930, Bryn Mawr College	
Smith, Edith Ann	Md.	Smith, Jeanne Stanley	D.C.
A.B. 1943, Arizona State Teachers College		Smith, Jennings Talbot	Md.
Smith, Edwin James	N.Y.	Smith, Jesse Bond	
Smith, Edwin Stratford	Utah	A.B. 1942, University of Virginia	Mass.
LL.B. 1944, The George Washington University		Smith, John Discoe	D.C.
Smith, Eleanor Lockery	D.C.	Smith, John Francis	Mo.
Smith, Emory Peter	D.C.	Smith, John Stephen	
Smith, Emory Clark	Tex.	A.B. 1936, Pasadena College	N.Y.
A.B. 1920, Northern Texas State College		Smith, Joseph Edward	D.C.
A.M. 1933, University of Texas		Smith, Josephine Lucille	
LL.B. 1937, Southern Methodist University		A.B. 1930, University of Buffalo	
Smith, Frances Caldwell	Va.	A.M. 1943, The George Washington University	
A.B. 1935, College of William and Mary		Smith, Kendall Owen	D.C.
Smith, Francis Murphy	N.Y.	Smith, Lawrence Crane	N.Y.
Smith, Frank Melton	W.Va.	Smith, Lawrence Sinclair	Fla.
A.B. 1930, Shepherd College		A.B. 1930, University of Florida	
Smith, Frank White	Md.	Smith, Lee Donald	Md.
Smith, Fred Cushing	D.C.	Smith, Leon Kushner	D.C.
Smith, Frederic Newcomb	Ind.	A.B. 1947, LL.B. 1948, The George Washington University	
Smith, French Crawford	Md.	Smith, Leonard Phillip	D.C.
Smith, George Francis	D.C.	Smith, LeRoy Walter	Va.
Smith, Gerald Winfree	D.C.	A.B. 1947, American University	Calif.
Smith, Grace H.	D.C.	Smith, Lila Eleanor	
A.B. 1919, Flora Macdonald College		A.B. 1948, University of California at Los Angeles	Va.
A.M. 1935, Duke University		Smith, Louis Guy, Jr.	D.C.
Smith, Grady Fay	Ga.	Smith, M. Gertrude	
Smith, Harlan Van Allen	Md.	A.B. 1932, The George Washington University	
Smith, Harold	N.Y.	Smith, Margaret Anne	D.C.
		Smith, Martin Timothy	Va.
		Smith, Mary Ann	Iowa
		Smith, Mary Muirhead	Va.
		Smith, Mason Paul	Md.

Smith, Mea Clyde A.B. 1917, University of Texas	Md.	Smith, William Christopher	D.C.
Smith, Melvin	N.Y.	Smith, William Milton	Miss.
Smith, Mildred Brunst A.B. 1933, University of North Carolina	N.C.	Smith, William Parkhurst, Jr.	D.C.
Smith, Mildred Laetitia	Va.	Smither, Marian Alexander	D.C.
Smith, Milly Roberts	Tenn.	B.S. 1934, Wilson Teachers College	
Smith, Mitchell Dean	D.C.	Smithers, Beverly Joyce	D.C.
Smith, Myron Morledge, Jr.	Va.	Smithson, Clyde Elmer	D.C.
Smith, Nancy Joanne A.B. 1948, Hood College	Va.	Smithson, James Elmer	D.C.
Smith, Natalie Harriet	D.C.	Smukler, Melvin Irving	D.C.
Smith, Nicholas James III	Va.	Smolen, Joseph Sidney	Calif.
Smith, Nora Oberlene	N.H.	A.B. 1946, University of California at Los Angeles	
Smith, Norman Allan	Calif.	Smolky, Sheldon Harmon	N.Y.
Smith, Orval James A.B. 1947, University of Wyoming	D.C.	Smuller, Morton Bernard	D.C.
Smith, Palmer Rathbone	Va.	Smoot, Henry Branner	Va.
Smith, Patricia Ann	Va.	Smoot, Hope Massie	N.Y.
Smith, Paul Bridges B.S. 1941, United States Naval Academy	N.Y.	B.S. 1930, Harvard University	Pa.
Smith, Paul Henry	Ind.	Smullen, Jeannette	D.C.
Smith, Pearl O.	N.Y.	Smullen, Isabelle Anna	
Smith, Phyllis Gay	D.C.	B.S. 1937, Temple University	
Smith, Ralph Edwin	Md.	Smuzynski, Alvin Walter	Mich.
Smith, Rex Chapman	Va.	Smyrniotis, Pauline Zoe	Pa.
Smith, Richard Cook	Va.	B.S. 1948, The George Washington University	
Smith, Richard Henry	Va.	Smyth, Harry Thomas	D.C.
Smith, Richard Robert	Va.	Snapp, Nathan J.	Md.
Smith, Robert Dilman	Va.	B.S. 1940, United States Military Academy	
Smith, Robert Marion	D.C.	Sneddon, John James	Va.
Smith, Robert Tynes III A.B. 1948, The George Washington University	Va.	Snegosky, Adella Mary	Minn.
Smith, Robert Wilson	D.C.	Snell, Henry Ambrose, Jr.	Maine
Smith, Rodney Carl	Pa.	B.S. 1943, University of Maine	
Smith, Roger Emerson	D.C.	Snedman, William Cornelius	Pa.
Smith, Roger Falter B.S. 1940, United States Naval Academy	Va.	Snider, Betty Eunice	Va.
M.S. 1947, Ohio State University		Snider, George Wayne	Mo.
Smith, Roy Lindsay, Jr.	D.C.	Snider, John Lawrence	Va.
Smith, Ruby Dare	Va.	A.B. 1948, The George Washington University	
Smith, Russell Willard	R.I.	Snodgrass, Aileen Poling	D.C.
Smith, Ruth N.	Md.	A.B. 1928, West Virginia University	
Smith, Samuel Rodmond A.B. 1948, The George Washington University	Va.	Snodgrass, Ernest Walter	W.Va.
Smith, Sheldon Keith	D.C.	A.B. 1932, A.M. 1940, West Virginia University	
Smith, Shirley Tubman B.S. 1945, State Teachers College, Salisbury, Md.	Md.	Snodgrass, Paul David	Va.
Smith, Thomas Benjamin	Ga.	Snow, Edward Francis, Jr.	D.C.
Smith, Thomas Eugene	N.C.	Snow, Robert Francis	D.C.
Smith, Thomas Lewis	D.C.	Snowden, Barbara	D.C.
Smith, Thomas Warner A.B. 1948, The George Washington University	D.C.	Snowden, Frederick Carroll	Va.
Smith, Thurman B.S. 1940, East Texas State College	Tex.	Snyder, Albert Lloyd	Md.
Smith, Timothy Edward	Md.	Snyder, Charles Joseph	N.I.
Smith, Tomas Arthur	Md.	Snyder, Charles Thomas	Mich.
Smith, Truett Conwell	Fla.	A.B. 1942, University of Michigan	
Smith, Verna Emily	N.Y.	Snyders, Dennis Truman	N.C.
Smith, Violet Zeigler	Va.	Snyder, Donald Kenneth	Pa.
Smith, Walker William	N.C.	Snyder, Esther Anne	D.C.
Smith, Wallace Morrell	Va.	Snyder, Gilbert Reed	D.C.
Smith, Warren Webster	D.C.	Snyder, Glenn Harold	D.C.
Smith, Wendall Arthur B.S. 1938, University of Vermont	N.H.	Snyder, Lee Francis	D.C.
Smith, Willard Franklin	Va.	Snyder, Lillian Mary	Ill.
		B.S. 1937, University of Illinois	
		M.S.S. 1939, Smith College	
		Snyder, Lucille	Md.
		Snyder, Mark Curtis	D.C.
		Snyder, Merrill J.	Pa.
		B.S. 1940, University of Pittsburgh	
		Snyder, Rachel	W.Va.
		A.B. 1934, Shepherd College	
		Snyder, Sidney	Pa.
		Snyder, Stuart	D.C.
		A.B. 1947, Cornell University	
		Snyder, William Junior	Pa.
		Sobel, Agatha J.	N.Y.
		A.B. 1947, Hunter College	

Sobolewski, Erma May	Mo.	Soucek, Frank James	Va.
Sodd, Mary Ann	D.C.	B.S. in E.E. 1948, The George Washington University	D.C.
Soderberg, James William	D.C.	Soucer, Victor H.	
Soffen, Fred	Calif.	B.S. 1931, United States Naval Academy	La.
Sohl, Walter Wood, Jr.	Wis.	Soulant, Herman Albert	Va.
A.B. 1939, DePauw University		Souther, Arthur Fuller	Va.
A.M. 1940, Georgetown University	Calif.	Souther, Richard Stirling	Md.
Sokobin, Cynthia Jane		Southerland, Elisabeth Lamkin	Ga.
A.B. 1943, Stanford University	N.Y.	A.B. 1940, University of Richmond	D.C.
Sokolowsky, William	France	Southerland, Robert Thomas	Mont.
Solac, Juan Louis		Southmayo, LeRoy, Jr.	Va.
B.S. 1946, University of Algiers	D.C.	Southwell, Paul M.	
Solberg, Marian Ruth	Norway	A.B. 1940, The George Washington University	Utah
Solem, Irenelin	Va.	Southworth, Emma Lucinda	D.C.
Solem, Preston Arnold	D.C.	Sowards, Leona Noel	
Solis, Arnold	D.C.	A.B. 1947, Municipal University of Wichita	D.C.
Sollins, Alfred Daniel	D.C.	Sowards, Maxine Exet	D.C.
A.B. 1945, The George Washington University		Sowder, Richard Dunham	
Sollitt, William	D.C.	A.B. 1934, University of Kansas	
Solnitzky, Dorothy Louise	Md.	LL.B. 1934, Harvard University	Va.
Solomon, Alvin	Md.	Sowers, Mary O.	Md.
Solomon, Benjamin	D.C.	Sowers, Robert Hauer	Va.
Solomon, Judith Marcia	D.C.	Spada, Aldo Frank	N.Y.
Solomon, Lewis Jay	N.Y.	Spadafora, Carmele	D.C.
Solomon, Lillian Minnitz	D.C.	Spagnono, Raymond	W.Va.
Solomon, Nona Lee	D.C.	Spaid, Giles Henry	Del.
Solomon, Robert Joseph	Mich.	Spain, Clara	N.Y.
Solomon, Samuel Sidney	D.C.	Spain, Norman Noah	
Solomon, Sidney	Md.	A.B. 1946, Brooklyn College	D.C.
Solomon, Stanley Lawrence	Md.	Spain, Robert Henry	D.C.
Solow, Max		Spalding, Richard	Va.
B.S. in E.E. 1943, The George Washington University	Md.	Spangler, Leonard William	D.C.
Solt, James Earl		Spann, George Klepfer	D.C.
A.B. 1934, University of Maryland		Sparks, Donald Carroll	Colo.
A.M. 1939, Columbia University	W.Va.	Sparks, Edward D.	
Solter, Myron Woodrum	D.C.	B.S. in E.E. 1946, University of Oklahoma	N.Y.
Soltis, Emil Samuel	Ohio	Sparks, Morris Murray	N.Y.
Soltow, William Donald, Jr.		Spatz, Murray	Mich.
B.M.E. 1948, Rensselaer Polytechnic Institute	N.J.	Spaulding, James Burton	D.C.
Soltz, Shirley Ann	Minn.	Spaulding, Jo Anne	D.C.
Somers, Bernard Vincent	Va.	Spaulding, John Henry	Va.
Somers, George Britton		Spaven, Margaret Napier	Ohio
A.B. 1939, University of Richmond	Mass.	Speaks, James Taylor	R.I.
Somers, Leonard	N.Y.	Spear, Harvey Milton	
Somers, Nelson Roy	D.C.	A.B. 1942, Brown University	
Somers, Ruth Andrene	D.C.	LL.B. 1948, Harvard University	D.C.
Somers, William Francis	D.C.	Spear, Moncrieff Johnston	
Sommerfield, Stanley Lyman	N.Y.	A.B. 1946, Cornell University	D.C.
A.B. 1940, LL.B. 1942, Syracuse University		Spearmark, Pearl	D.C.
Sommers, John, Jr.	Md.	Specht, Doris Tackett	D.C.
Sondheimer, Allen James	D.C.	Specht, Norman Eugene	Mass.
Sonnabend, Joel Simon	N.J.	Spector, Eugene Paul	
Sonnenberg, Herbert Jerome	Md.	A.B. 1947, The George Washington University	N.Y.
Sonnenfeldt, Helmut	Pa.	Spector, George	
Sonnett, George Matthew	La.	B.C.E. 1942, M.C.E. 1947, Brooklyn Polytechnic Institute	D.C.
Sonnier, Genevieve Lois	N.J.	Spector, Sharon Madeline	N.Y.
Sonzogni, Charles Henry		Spector, Sidney Aaron	D.C.
B.S. 1948, Fordham University	N.Y.	Speer, William Thomas, Jr.	D.C.
Sorell, Gerald Paul	D.C.	Speidel, Rodney Christopher	Idaho
Sorensen, Margaret Elizabeth	N.Y.	Spence, Charles E., Jr.	D.C.
Sorenson, Barbara Jeanne	Iowa	Spence, John Sherman	D.C.
Sorenson, Clara Thelma	D.C.	Spence, Othniel Talmadge	Idaho
Sorrell, Frederick Maurie	D.C.	Spencer, Carl Alfred	
Sorrell, Richard Alexander	D.C.	B.S. in Ed. 1934, Miami University	Mass.
Sorrells, James Victor	D.C.	Spencer, Charles Ellis	
Sorrells, John Robert	Md.	A.B. 1938, Clark University	
Sortor, Olive	Mo.		
Soscia, Louis Robert	N.Y.		
Sotta, Robert Eugene	Kans.		

Spencer, George Browning	D.C.	Stadtmueller, Mary Elizabeth	Iowa
Spencer, John W. H.	Va.	A.B. 1925, Coe College	
B.S. 1948, The George Washington University		Stafford, Bert Bedell	Tex.
Spencer, Marjory Charles	Ky.	A.B. 1947, University of Texas	
A.B. 1937, University of Kentucky		Stafford, Dorothy Craig	D.C.
Spencer, Mary Anderson	Va.	Stafford, Philip Wendell	Mass.
Spencer, Philip G. Hamilton	Va.	B.S. in M.E. 1934, Worcester Polytechnic Institute	
Spencer, Ray	D.C.	Stafford, William Pillon	N.Y.
Spencer, Richard Overton	Va.	Stage, Anson Hutchinson	Va.
Spencer, Robert Mitchell	Tenn.	Stahl, Robert William	Va.
Spencer, Thomas Marshall	D.C.	A.B. 1948, Gettysburg College	
Sperberg, Franklin Robert	Wis.	Stainbrook, Norbert Elery	Pa.
B.S. 1944, United States Naval Academy		Stair, Gerald Kent	D.C.
Sperling, Abraham	D.C.	Stair, Ralph Lavar	D.C.
Siesel, Morton Lee	D.C.	Stallings, Carlyle Page	Md.
Spelman, Edward Thomas	D.C.	Stallings, Clyde Morton	N.C.
Spelman, Emma Mueller	Md.	Stallings, James Henry, Jr.	D.C.
A.B. 1941, A.M. 1942, University of Rochester		A.B. 1948, Duke University	
Spiett, Randolph Joseph	D.C.	Stallsmith, William Paul, Jr.	Md.
Spiker, Donald Aze	D.C.	Stamatiou, Nicholas Constantine	D.C.
Spiliotis, Niki	D.C.	L.L.B. 1949, Athens University	
Spilsbury, Calvin C.	Utah	Stambauch, George Leonard	Pa.
A.B. 1943, The George Washington University		Stambaugh, Donald John	D.C.
Spindler, June Arlyne	N.Y.	Stambler, Howard Victor	D.C.
Spinks, Benjamin Tolbert	N.C.	Stamboul-Sheik, Leonid	Pa.
Spinner, Jack Robert	Ill.	Stames, Harry Clay	D.C.
Spindler, James Dennis	Fla.	Stamev, Rodenck Alexander, Jr.	
Spitalney, Claire Toby	D.C.	A.B. 1941, Rice Institute	D.C.
Spitler, Robert Henry	N.Y.	Stamper, Charles William	Pa.
Spitsbergen, James Clifford	D.C.	Stamulis, Aristides	D.C.
Spitz, Herbert	N.Y.	Stancill, Carl Boston	N.Y.
A.B. 1947, Brooklyn College		Stander, Maxwell	
Spitznagel, Anne Sirch	Md.	B.S. 1943, College of the City of New York	
A.B. 1944, B.S. 1947, Columbia University		Stanisaulieuch, Nikoa Dragisha	D.C.
Spivak, Richard Walter	Pa.	Stanislawczyk, Joseph Michael	D.C.
B.S. 1942, University of Pennsylvania		Stanley, Earl R.	Ohio
Spivey, Thomas Deemuth	Va.	B.S. in Ed. 1943, Kent State University	
A.B. 1940, University of North Carolina		Stanley, Emory Day, Jr.	Pa.
Solano, Francis Xavier	Pa.	B.S. 1944, United States Naval Academy	
Sponaugh, George Isaac	D.C.	Stanley, Eric	D.C.
A.B. 1940, Shepherd College		Stanley, Gregory Quin	N.Y.
Spoonamore, Edward Bruce, Jr.	D.C.	Stanley, Marvey	D.C.
Spradlin, Margaret Loretta	Va.	Stannard, Amelia Francis	N.Y.
Sprague, Lowell Sanford	Va.	Stannard, John Sumner	D.C.
Spraker, Glenn M.	Iowa	Stanne, Janet MacLoughlin	Va.
Spring, Charles Bernard, Jr.	Va.	Stansbury, Ralph Emory	Va.
Springer, Harold Fulton	Va.	Stapleford, LeRoy Brown	R.I.
Springer, Paul Frederick	Md.	Stapleton, Richard John	D.C.
A.B. 1943, University of Illinois		Stapton, Rolphne Ronald	Oreg.
M.S. 1945, University of Wisconsin		A.B. 1917, Oregon State College	
Sproughton, Charles Daniel	W.Va.	A.M. 1941, Louisiana State University	
Sprowell, Lucretia Charles	Wyo.	Stark, Harry Roger	Calif.
Sprowell, Robert Roy	Wyo.	B.S. 1916, United States Naval Academy	
A.B. 1948, University of Delaware		Stark, John Rezan	Va.
Spruce, Frances	Md.	A.B. 1938, Cornell University	
Spudis, Edward Verhines	D.C.	M.P.A. 1946, New York University	
Spurlock, Gene Paul	Ky.	Stark, Lois Iva	Va.
Squire, Roy Taylor	D.C.	Starkey, Jesse Lee	Md.
Squires, William Harry	Pa.	A.B. 1948, Western Maryland College	
Snyres, Ernest Muri	Tex.	Starkey, Myron Bywater	Calif.
Snyder, Stanley Edward	Ohio	Starling, William L.	Md.
Sroka, Sylvia Anita	D.C.	Starns, Charles Edwin	Ky.
Sroka, Edward Andrew	Va.	Starns, Henry Carroll	Ky.
B.S. 1941, Purdue University		Starobin, Abraham Fred	D.C.
Stachura, Wendy Sue	Va.	Starr, David Whelpley	D.C.
Stack, Robert Arthur	Mass.	Starr, Edward Melvin, Jr.	D.C.

Starr, Hugh Kennedy	Tex.	Steinberg, Harry	N.J.
Starr, Selig	N.Y.	B.S. in M.E. 1946, New York University	
A.B. 1940, Brooklyn College	Va.	Steinberg, Jacob David	D.C.
Start, Barbara Lee	Kans.	Steinberger, Hugh Marion	D.C.
Startz, Raymond Francis	Pa.	B.S. 1941, University of Virginia	
Startzell, Dale Eugene	Mass.	Steinberger, Margery Saks	D.C.
Stasiunas, Antanina Geneva	D.C.	Steiner, Archie Kenneth	Tenn.
Statts, Helen Anna	Pa.	A.B. 1935, Lincoln Memorial University	
Stauffer, Clyde Andrew, Jr.	Md.	B.S. 1936, East Tennessee State College	
Stauffer, Howard Chester	D.C.	M.S. 1940, University of Tennessee	
Stauffer, Jane Catherine		Steiner, Otto Thomas	N.Y.
B.S. in Ed. 1945, The George Washington University	Pa.	Steiner, Paul Llewyn	D.C.
Stauffer, Nancy Miller		Steinert, Leif Emil	N.Y.
A.B. 1944, Pennsylvania College for Women	D.C.	Steinfert, Oliver Wallace	Va.
Stavis, Thomas Anthony	Md.	Steininger, Eugene Beachel	Pa.
Stavish, Theodore	D.C.	Steinkolk, Roger	D.C.
Steadman, Lewis Tilden		Steinly, Paul Jay	W.Va.
B.M.E. 1946, Syracuse University	D.C.	Steinmeyer, Robert Jay	Nebr.
Stearns, Rita	N.Y.	B.S. in E.E. 1945, University of Nebraska	
Stebbins, Jean Sally	W.Va.	Stelck, William Ardell	Iowa
Steck, Philip Clifford	D.C.	Stell, Jack Bowell	D.C.
Stecker, Donald Max	D.C.	Stella, Miriam	D.C.
Stecker, Julie Florence		Stenger, Howard William	D.C.
B.S. 1945, New York University	D.C.	Steninger, John B.	D.C.
Steece, Philip John	D.C.	Stepanek, John James	Ill.
Steele, Cynthia	D.C.	Stephan, Elsie G.	Ill.
Steele, Doris Virginia	Iowa	Stephens, Eugene Penley	Maine
Steele, Elroy Junior	Va.	Stephens, Jack Payne	Md.
Steele, Ira Ernest		Stephens, John, Jr.	Fla.
B.B.A. 1939, Texas College of Arts and Industries	D.C.	A.B. 1946, The George Washington University	
Steele, Lendell Eugene	D.C.	Stephens, Marvin Massey, Jr.	Va.
Steele, Patricia	D.C.	Stephens, William Theodore	Md.
Steele, Walter Edward	D.C.	Stephenson, Earl Donald	D.C.
Steenerson, Palmer Seymour	Va.	Stephenson, Stephen Hall	Va.
Steer, Joseph Henry	Pa.	Sterling, Gisela	D.C.
Stefanick, Rose Marie	Ill.	Sterling, Hildegard	D.C.
Steff, Lois Lorraine	Wis.	Sterling, James Thaddeus	Md.
Steffanides, Edward Frank, Jr.		B.S. 1947, The George Washington University	
B.S. 1931, United States Naval Academy	Va.	Sterling, Milton Calvin	D.C.
Steffey, Richard Carlisle		Sterling, William Norton	D.C.
A.B. 1943, Roanoke College	Va.	Sterman, Milton	N.Y.
Stehl, Edward	D.C.	Stern, Marvin Ray	D.C.
Steidel, James Charles	N.J.	Sterns, Dorothy Irene	N.Y.
Stein, Charles Edward		A.B. 1946, Barnard College	
B.S. 1934, Case Institute of Technology	N.Y.	Sterr, Robert	N.J.
Stein, Charles Robert	N.Y.	Stetson, Richard	Md.
Stein, Harold Lawson		Stetson, Rufus Edwin, Jr.	Maine
A.B. 1947, The George Washington University	D.C.	A.B. 1947, Bowdoin College	
Stein, Julian Ulman	Pa.	Stevas, Alexander Louis	Pa.
Stein, Laura	Pa.	Stevens, Anna Lenore	Md.
Stein, Mervin		Stevens, Donald Jr.	Ohio
B.S. 1947, B.C.E. 1948, Rensselaer Polytechnic Institute	Pa.	A.B. 1940, Muhlenberg College	
Stein, Mordecai	D.C.	Stevens, Dorothy C.	D.C.
Stein, Murray	Va.	Stevens, Gene Casper	Va.
A.B. 1947, The George Washington University		Stevens, Ioan Isabella	D.C.
Stein, Norma	N.J.	Stevens, John Cameron	Mass.
Stein, Orren Fischer	D.C.	Stevens, Marguerite Dick	D.C.
Stein, Paula M.	D.C.	Stevens, Nancy Reynolds	Va.
Stein, Stanley	N.Y.	Stevens, Virginia Summerlin	D.C.
Steinacker, Elaine Carlotta	D.C.	Stevens, Wilbur George	Iowa
Steinbauer, Walter Henry	D.C.	Stevens, Willard Lamont	D.C.
B.S. 1947, Emory and Henry College		Stevens, William Henry	D.C.
		Stevens, Wynne Allan, Jr.	Md.
		A.B. 1930, College of William and Mary	
		Stevenson, Blair Wayne	D.C.

Stevenson, Ruth Blackwell A.B. 1948, The George Washington University	Ind.	Stingley, Vern Gage Stinson, Willis Cullen A.B. 1939, Marshall College	Md. Va.
Stevenson, William Benson	Md.	Stirewalt, Ruxa Enaly B.S. 1938, College of Charleston	D.C.
Stewart, Allan Hugh	Calif.	Stirling, Edwin Tillman	D.C.
Stewart, Anita May	Va.	Stutelman, Joseph B.S. in E.E. 1934, Cooper Union	D.C. D.C.
Stewart, Barbara E.	Va.	Stuth, James Logan	Va.
Stewart, Charles Lockwood A.B. 1927, A.M. 1929, Ph.D. 1936, University of California	Nev.	Stutt, James Howard	D.C.
Stewart, Charles Todd A.B. 1946, The George Washington University	Md.	Stock, William Stark B.S. 1937, Mount St. Mary's College M.B.A. 1939, University of Pennsylvania	Va.
Stewart, Clark Berry B.M.E. 1948, Clemson College	Md.	Stockard, Charles Geor	Va.
Stewart, David Alfred, Jr.	Miss.	Stockdale, William Arthur	Va.
Stewart, Dorothy Carrington A.B. 1941, Boston University	Mass.	Stockell, Charles White A.B. 1948, Vanderbilt University	D.C.
Stewart, Eleanor Frances	Md.	Stockett, Clyde Norman	D.C.
Stewart, Elijah King	Okla.	Stockett, Robert Monroe	Va.
Stewart, Ervin Otto	Maine	Stockstill, Louis R.	Okla.
Stewart, Francis Clement	Pa.	Stockton, John Murrell	Tex.
Stewart, Francis John A.B. 1948, West Virginia University	Pa.	Stockton, Lorraine Maley	Va.
Stewart, Henry A.B. 1948, University of Nevada	Nev.	Stockton, Ralph Howell	Tex.
Stewart, Howard	Va.	Stoen, Royal Stanley	Va.
Stewart, Inez Gertrude	Va.	Stogsdill, Marion Russell	Va.
Stewart, Isaac Milton	N.Y.	Stoker, Martha Frances	Pa.
Stewart, Katherine Ferguson	La.	Stokes, James Arthur	D.C.
Stewart, Loretta May	Kans.	Stolar, David Maurice	D.C.
Stewart, Mary Elizabeth	Pa.	Stolarski, C. Robert	Pa.
Stewart, Merrick, Jr. B.S. 1947, University of Maryland	D.C.	Stoll, Ervin Wightman B.S. in B.A. 1947, LL.B. 1948, University of South Carolina	S.C.
Stewart, Mildred Letitia	N.C.	Stoll, Walter Arthur	D.C.
Stewart, Robert Malcolm B.S. 1947, California Institute of Technology	Va.	Stolow, Walter Charles B.S. 1948, College of the City of New York	N.Y.
Stewart, Rodney Ward A.B. 1944, Carleton College A.M. 1944, University of Chicago Ph.D. 1948, Harvard University	D.C.	Stolworthy, Harvey Leigh	D.C.
Stewart, Walter Jones Library, Lois A.B. 1942, The George Washington University	Va. Va.	Stone, Barbara Nell	D.C.
Stickler, William Isaac B.S. 1938, College of the City of New York	D.C. N.Y.	Stone, Betty Barbara	D.C.
Stickney, Bernard	N.Y.	Stone, Bryce Douglas, Jr.	Tenn.
Stickney, Herbert Camp	Miss.	Stone, Claudia F.	D.C.
Stickney, Paul Herbert	D.C.	Stone, Clyde	D.C.
Stiefel, Eleanor Brooke	Md.	Stone, Dolores Marion	Va.
Stier, Clare Ann	D.C.	Stone, Gregory King	D.C.
Stieren, Gerald William	Neb.	Stone, Helen Seegar	Ind.
Stipall, John Oliver	Mo.	Stone, James Robert	D.C.
Stivers, Donald William	Pa.	Stone, John Bevden	D.C.
Stoler, William Warren, Jr. A.B. 1939, Amherst College	Md.	Stone, Joseph Jack	D.C.
Stiles, Meredith Newcomb, Jr. A.B. 1946, Amherst College	N.J.	Stone, Karl Letter	D.C.
Stillman, William Cripe	D.C.	Stone, Luther Edward A.B. 1947, The George Washington University	Md.
Stilson, Lewis Francis	D.C.	Stone, Margaret Ann	W.Va.
Stilson, Scott, Jr.	D.C.	Stone, Robert Oliver	Md.
Stilwell, Jack William	W.Va.	Stone, Rose Louise A.B. 1947, The George Washington University	W.Va.
Stilwell, Mary Ona B.S. in Ed. 1939, University of Virginia	Va.	Stone, Virginia Greer	Md.
Stima, Joseph Felix	Va.	Stone, Vivien Helen	D.C.
Stine, John Speersma	D.C.	Stone, Walter Kersten	Neb.
Stine, Mary Virginia	D.C.	Stone, William M., Jr. B.S. 1946, New York University	D.C.
Stingle, Howard Ellsworth	Ind.	Stonebraker, Dan A.B. 1947, University of Rochester	N.Y.
		Stoneman, Patricia Ray	Wis.
		Stoner, Jean Cole	D.C.
		Stoner, Merle McLaughlin	Pa.
		Story, Elsie Dabney B.S. 1932, Farmville State Teachers College, Va.	Va.
		Story, James Wilber	D.C.
		Stotler, Herbert Jennings	Va.

Stout, Carol Margaret	D.C.	Stuart, Fred Wohlwend	Va.
Stout, Charles Wilson, Jr.	D.C.	Stuart, Jasper Edwin	D.C.
Stout, Henry Wallace	D.C.	Stuart, John Bruce, Jr.	Va.
Stout, Joe William	Pa.	Stuart, Kenneth Earl	Ind.
Stout, William Searl	Pa.	Stuart, Lydia Towles	D.C.
Stoutsenberger, James Clifton	D.C.	Stuart-Alexander, Diana Thyra	D.C.
Stovall, Dorothy Ruth	D.C.	Margaret	D.C.
Stovall, Milton Alva	Ala.	Stubbs, Eugene Wilson	D.C.
Stover, Olin	D.C.	Stubbs, Lewis Glenn	Va.
Stowell, John J.	N.Y.	Stubbs, Mary Jane	D.C.
A.B. 1938, Syracuse University		A.B. 1945, Shorter College	Ala.
LL.B. 1946, Howard University		Stubbs, Marylee Wilson	
Stoyanoff, Stephen	Pa.	B.S. 1940, State Teachers College,	
Stoyanov, Sam	D.C.	Alabama	
Stradley, Agnes Flaunda	S.C.	Stuche, Adela L.	Tex.
B.S. 1945, University of South		A.B. 1941, The George Washington	
Carolina		University	S.C.
Strain, Howard Alden	D.C.	Stuckey, Mary Lucia	D.C.
Strain, Mary Charlotte	Va.	Studds, Granville Murray	N.Y.
Strang, Marian Elizabeth	N.Y.	Studley, Henry Jean	N.Y.
Strang, Roy Benson	N.Y.	B.S. 1943, New York University	Md.
Stratman, Mildred Marie	D.C.	Stultz, Arnold Victor	Mass.
Stratton, Eugene Aubrey	Mass.	Stultz, Norman Frederick	Md.
Stratton, Lawrence	N.Y.	Stultz, Traver David	
A.B. 1943, The George Washington		B.S. 1948, St. Louis University	Mass.
University		Stultz, Verle Lucille	W.V.
Straub, Robert Lee	Va.	Stump, Charles Albert	
Strauss, Elliott Bowman	D.C.	A.B. 1948, University of Pennsylvania	Va.
B.S. 1923, United States Naval		Sturm, Nicholas James	D.C.
Academy		Stutman, David	D.C.
Strauss, Esther Elizabeth	D.C.	Stutz, Frank August	D.C.
Strauss, Iris May	D.C.	B.S. 1931, Lehigh University	
Strauss, William Sigfrid	Va.	A.M. 1940, The George Washington	
A.B. 1932, Ph.D. 1933, University		University	Puerto Rico
of Wurzburg, Germany		Suarez, Ada	D.C.
Strawbridge, Lawrence William	D.C.	Suber, James Whitley	Miss.
Strawbridge, Phyllis Jeane	D.C.	Sudduth, Herschel Cochran	
Strayer, Francis Henry	D.C.	B.S. 1937, A.B. 1940, M.S. 1938,	
B.S. 1935, A.M. 1939, The George		M.D. 1943, University of Oklahoma	Va.
Washington University		Sudhalter, Leonard Louis	Mass.
Sreb, Doris Baldwin	D.C.	Sudnik, Louis Frederick	
Streb, Samuel Stephen	D.C.	B.S. 1941, United States Coast Guard	
Streets, Lucille Brackett	Idaho	Academy	Mass.
A.B. 1943, Goucher College		Sudol, Elvina Joan	D.C.
Streets, Ronald Emerson	D.C.	Sugar, Harold Samuel	N.J.
Streett, Burnett Irving	D.C.	Sugerman, George	N.C.
Strinz, Clare Julia	Pa.	Sugg, William Leonard	N.J.
Strickler, Helen Louise	Okla.	Sukalo, Charles	
A.B. 1947, University of New Mexico		B.S. in Ch.E. 1944, Newark College	
Strickman, Louis	N.Y.	of Engineering	Minn.
Stringham, Jean Maxwell	Md.	Sukola, Anita Alice	D.C.
Stroble, Edwin Bates	Ill.	Sullivan, Arthur Victor	Md.
Strode, Audrey Maude	D.C.	Sullivan, Charles Andrew	N.I.
Strohmaier, Edward	Md.	Sullivan, Charles Xavier	D.C.
Strong, Ralph Lavell	D.C.	Sullivan, Craig Kiefer	D.C.
Strongosky, Evelyn	Pa.	Sullivan, Eleanor Lay	D.C.
Strother, Calvin Arnold	Okla.	Sullivan, Elizavell Gertrude	
A.B. 1947, Harvard University		B.S. 1944, Catholic University of	
Strother, Greenville Kash	Va.	America	Md.
B.S. 1943, Virginia Polytechnic		Sullivan, Eugene Francis	
Institute		A.B. 1948, The George Washington	
Stroud, Doris Lucia	Mass.	University	Md.
Stroud, George Luhrs	Va.	Sullivan, Francis John	
A.B. 1941, Stanford University		B.S. in B.A. 1942, University of	
Stroup, Windsor William	D.C.	Pittsburgh	Md.
Stroupe, Lawson Sidney	Va.	Sullivan, Grace B.	Mass.
Stroupe, Ray McKinley	D.C.	Sullivan, John	Md.
Struble, Alden Herman	D.C.	Sullivan, John Christian	D.C.
A.B. 1930, A.M. 1932, University		Sullivan, Mary Carmel	
of Michigan		A.B. 1931, A.M. 1933, The George	
Strum, Joseph Franklin	Va.	Washington University	D.C.
Strupp, Werner	D.C.	Sullivan, Nancy Ruth	D.C.
Struthers, Melvin	Iowa	Sullivan, Palmer Wallace	

Sullivan, Robert Francis B.S. 1948, The George Washington University	D.C.	Swafford, Tommy Vaghn Swain, Harold Gordon B.S. 1940, State Teachers College, Troy, Ala.	D.C. Ala.
Sullivan, Robert Martin	Va.	Swain, Katherine Moody	Ala.
Sullivan, Robert Maurice	D.C.	Swan, John Wesley	Ark.
Sullivan, Samuel Alexander B.S. 1935, Edinboro State Teachers College, Edinboro, Pa.	Va.	Swan, Robert E. B.S. 1947, College of Puget Sound	Va.
Sullivan, Thomas Vincent A.B. 1942, New York University	N.Y.	LL.B. 1946, Temple University	D.C.
Sullivan, William Franklin	Md.	Swann, Carter Holman	D.C.
Suman, Theodosia Ann	Md.	Swann, Mary Violet	D.C.
Summy, William Hopkin A.B. 1942, University of Connecticut	Conn.	Swanson, Barbara Steele A.B. 1945, Bryn Mawr College	D.C.
Summer, Leonard B.S. 1933, M.S. 1938, College of the City of New York	Va.	Swanson, Betty Anne Swanson, Henry John Swanson, Kenneth Arthur B.S. 1948, Allegheny College	D.C. Ill. D.C.
Summers, Charles Russel A.B. 1936, A.M. 1938, State College of Washington	Va.	Swanson, Lawrence M. Swanson, Mary Alice B.S. 1947, University of Missouri	Minn. Idaho
Summers, Edward Lee	D.C.	Swanson, Ragnar Gosta	Mass.
Summers, Elson Morington	D.C.	Swanson, Robert Warnick B.M.E. 1947, The George Washington University	Va.
Summers, Everdean V.	Va.	Swanson, Virginia Anne	D.C.
Summers, 1939, Calvin College	Va.	Swanson, Charles William	Va.
Summers, George Nixon	Va.	Swartz, Christian LeFevre B.S. 1937, University of Pennsylvania	Va.
Summers, Gerald Preston	D.C.	LL.B. 1946, Temple University	Iowa
Summers, Leonard	D.C.	Swartz, Dorothy Lucille	Md.
Summers, Mary Jane	D.C.	Swartz, Eugene	D.C.
Summersell, George Grayson B.S. 1948, University of Alabama	Ala.	Swartz, Richard Miller A.B. 1948, Columbia University	Siam
Summerson, Mona D.	D.C.	Swasburn, Precha	Va.
Sumney, Ara Long A.B. 1946, University of West Virginia	D.C.	Swazze, Roy Albert	Md.
LL.B. 1940, University of Richmond	Pa.	Swearingen, Anne Patricia	D.C.
Sunday, Elmer George, Jr.	D.C.	Swearingen, Iris Inez	Ill.
Sunderlin, Marjorie Gallivan	Ill.	Sweebe, Edward Chiles	N.Y.
Sunderman, Helen Lorraine	Va.	Sweedler, Barbara Ruth	Va.
Sunderman, Shirley Keutha	D.C.	Sweeney, James Charles, Jr. B.S. 1948, University of Denver	D.C.
Sung, Chen Yu B.S. 1941, Yenching University, Peiping, China	D.C.	Sweeney, Thomas Joseph Sweeney, Vincent Albert B.S. 1935, United States Naval Academy	Minn.
Suntay, Aurora Sylvia	Iowa	Sweeney, William Finbar	D.C.
Supper, Frances Herald B.S. 1941, University of Iowa	Md.	Sweet, John Manko	Pa.
Suppes, Joan Louise	D.C.	Sweitzer, Henry Becker B.S. 1941, United States Naval Academy	N.Y.
Sursky, Bernard Arthur	D.C.	Swell, Leon B.S. 1948, College of the City of New York	D.C.
Sures, Charles Stanley A.B. 1947, The George Washington University	Mass.	Swenarton, Robert Owen	Utah
Surgen, Henry Ronald	D.C.	Swenson, Dale Abbott	Va.
Surgen, Raymond Charles	D.C.	Swenson, J. Elmore B.S. 1940, University of Utah	D.C.
Surine, Robert Travis	D.C.	Swenson, Nella Jean	D.C.
Susnowitz, Irma Selma	N.Y.	Swetnam, George Dayton	D.C.
Susino, Anthony	N.Y.	Swift, George Warren	Va.
Susser, Arthur	N.J.	Swingle, Emilie Ruth	Pa.
Susholz, Leonard B. A.B. 1948, The George Washington University	N.Y.	Swink, Madora Elizabeth A.B. 1947, Mary Washington College	Md.
Suthard, Katie Lavender	Va.	Swisher, John Melroy	Va.
Sutherland, Dorothy Gaile	Md.	Switz, Isadore Joseph	Ga.
Sutherland, Henry Clifton B.S. 1942, Virginia Military Institute	Va.	Switzer, Walter Edwin	Ill.
Sutherland, Julian Hoyt	D.C.	Swope, Harold Carl	Mo.
Sutherland, William Robert	D.C.	Swortzell, Lowell Stanley	D.C.
Suto, Eugene Julius	D.C.	Sybil, Jack Robert	Mo.
Suttle, Herman Judson	W.Va.	Sylvester, Eugene Paul	N.J.
Sutton, Roger J. B.S. 1941, Bradley Polytechnic Institute	Ill.		
Suwerkup, Maryjo	Nev.		
Svasti, Yudhisthira A.B. 1940, Cornell University	D.C.		

Sylvester, Malcolm Duncan
B.S. 1925, United States Naval
Academy
J.D. 1939, The George Washington
University
Symmes, Courtland
Symonds, Robert Henry
Symons, Floyd Murphy
Synan, Anne Bates
Synan, Richard Tilson
Szanyi, William Leo
Szczukowski, John Arthur
Szoka, Charles Eugene
Szokolsky, Joseph Steven
Szollosi, Etienne
Szumila, Anthony Dominic
Szwarcbart, Maria Kadyz
Szwed, Clarence Francis
Szykowski, Frank P.

T

Taaffe, Jesse Nel
A.B. 1941, North Texas State
Teachers College
Tabibi, Abdul Hakim
A.B. 1924, Kabul University
Tabler, Grayson Brust
Tabler, Joseph Norval
Taeves, Anne
Taffet, Hana
Tafoya, Ben
Taft, Gordon Lewis
B.S. 1942, Iowa State College
Taft, Howland Guild
Taggart, Barbara Jean
Taggart, Samuel Ross
Tait, Andrew
Tait, Reid Clifford
Tajen, Claire
A.B. 1947, Hunter College
Takabuki, Alice Sumiko
Takacs, Alexander Emery
Takacs, Theresa M.
Takemoto, Kaname
Talbert, Burch Franklin
Talbot, Elizabeth Jane
Talbot, Raymond Stanley
Talbot, Philip
Talhelm, Max Grove
Tallentire, Lois Ann
Talley, Betty Jane
Talley, Ethel Ondrovich
Talley, James Staton
Tallia, John
Tallman, Harold Lanson
Talmage, Henry Gardner
A.B. 1948, The George Washington
University
Taltarall, Grace Campbell
Tamayo, Alvaro
Tamer, Joseph Jacob
Tamson, Robert
Tan, Bermen
Tannabaum, David
Tanck, Roland Henry
A.B. 1939, University of Wisconsin
Tanczos, Frank Ignatz
B.S. 1939, Moravian College
Tang, Lwen Chang
Tang, Tse-Tung
Tankersley, James David, Jr.
A.B. 1948, University of California

La. Tanneberger, Walter Samuel Herman
Tanner, Seymour William
Tanner, Thomas Louis, Jr.
Tannhaver, John Ulrich
Tansing, Richard Meldo
B.S. 1948, University of Oregon
N.C. Taphorn, Joseph Bernard
D.C. B.S. 1943, University of Illinois
N.H. Taquey, Charles Henry
D.C. Tarbert, Carroll Emerson
Va. Tardosky, Arthur Joseph
N.J. Tarpley, Gloria Swann
D.C. Tarpley, James Harold
Pa. Tarrant, William Theodore, Jr.
N.J. A.B. 1938, Stanford University
D.C. A.M. 1939, Tufts College
D.C. Tarri, Maldi
D.C. Tarver, Mary Eugenia
D.C. Tash, Ralph Philip
Fla. Tashiro, Jane Miako
D.C. Tashof, Joseph Henry
Pa. Taske, Morton Jerome
D.C. Tatarsky, Walter
D.C. Tate, David Bramblett
Md. Tate, Marian Keeler
D.C. A.B. 1925, The George Washington
University
W.Va. B.D. 1918, Chicago Theological
D.C. Seminary
Colo. Tate, Thomas Rouse, Jr.
N.Y. Tatam, Mary Helen
Md. A.B. 1947, The George Washington
D.C. University
Tatum, Hubert Melvin
N.H. Tatum, Zella F.
D.C. B.S. in B.A. 1940, Texas Christian
D.C. University
Va. Tauber, Leonard Murray
D.C. Taubman, Catherine
N.Y. A.B. 1947, New York University
D.C. Taussig, Joseph Kneller, Jr.
N.Y. B.S. 1941, United States Naval
Academy
D.C. Tauts, Carl Max
N.Y. Tavenney, Frank Brennan
Hawaii Tayloe, William Carr
D.C. LL.B. 1941, National Law School
N.Y. Taylor, Ada Elizabeth
D.C. Taylor, Alene Joyce
D.C. Taylor, Andrew Eustace
Pa. B.S. in M.E. 1947, Tufts College
Md. Taylor, Barbara Jane
D.C. Taylor, David Franklin
Va. Taylor, Donald Kent
D.C. LL.B. 1942, National University
Md. Taylor, Dyer Justice
Utah Taylor, Edward Rathbon
A.B. 1947, Lafayette College
D.C. Taylor, Elizabeth
D.C. Taylor, Francis Gordon
D.C. Taylor, Frank
D.C. Taylor, Frank Jordan
D.C. Taylor, Frank William
China Taylor, George Oliver
Mich. Taylor, Glenn
Wis. Taylor, Harold Emory
Pa. Taylor, Harold Eugene
China Taylor, Harry Earl
China A.B. 1948, The George Washington
Ark. University
Taylor, Herbert Bradley
Taylor, Irving Henry, Jr.
Taylor, Jack Gilbert

Va.
N.Y.
Va.
Md.
Ores.
Ill.
D.C.
Va.
Pa.
Ga.
Md.
D.C.
Wyo.
Ga.
D.C.
Fla.
D.C.
Pa.
D.C.
Md.
Tenn.
Tex.
D.C.
D.C.
R.I.
D.C.
Va.
Va.
D.C.
N.C.
Md.
D.C.
Idaho.
Ill.
D.C.
D.C.
Va.
Ga.
Ga.
D.C.
Miss.
Fla.
D.C.
Md.
Ohio.
Hawaii
Va.
Va.
D.C.

Taylor, Jackson	D.C.	Terrell, Edwin McClelland	Kans.
Taylor, James Charles	D.C.	Terrell, Jane Kathryn	Conn.
Taylor, John Henry	Va.	Terrett, Hunter Lazzader	Va.
Taylor, John Hunter	D.C.	Terrett, Stuart Thornton	Va.
Taylor, John Perry	Va.	Terrill, Mildred	Tex.
Taylor, Kenneth Carl	Md.	Terrill, Ralph Barry	D.C.
Taylor, Lillian Pearl	D.C.	B.S. 1941, Indiana University	
Taylor, Louis Robert	D.C.	Terry, George Mulford	Md.
Taylor, Marion Eugene	Va.	A.B. 1947, The George Washington University	
B.S. 1937, Washington College		Terry, Leslie Dean	Va.
A.M. 1947, The George Washington University		Tesoro, Salvatore	D.C.
Taylor, Marion MacKenzie	D.C.	Teter, John Earl	D.C.
B.M.E. 1945, University of Detroit		Tevelow, Frank Louis	N.J.
Taylor, Marvin Elliott	S.C.	Tew, Charles Weaver, Jr.	N.C.
Taylor, Maurice Francis	Calif.	Tewinkel, G. Carper	Wash.
B.S. 1939, Purdue University		B.S. 1912, State College of Washington	
A.M. 1940, Indiana University		M.C.E. 1940, Syracuse University	
Taylor, Maxine DeWoody	Pa.	Thack, Margaret Ann	Ohio
A.B. 1947, Allegheny College		Thackaberry, Mary Waynette	Va.
A.M. 1948, Fletcher School of Law and Diplomacy		A.B. 1948, The George Washington University	
Taylor, Patricia Edith	D.C.	Thacker, Edward Harvey	Va.
Taylor, Paul Harold	Md.	A.B. 1942, The George Washington University	
Taylor, Paul S.	D.C.	Thacker, Odie Gregory	Ga.
Taylor, Ralph Edward	N.C.	Thackston, Carl Richard	S.C.
Taylor, Richard Orme	D.C.	A.B. 1948, Furman University	
Taylor, Robert John	Pa.	Thaler, Milton	Va.
Taylor, Robert Lee	D.C.	Tharp, Mary Ann	D.C.
Taylor, Robert Leslie	N.Y.	Thatch, Yvonne Helen	Va.
A.B. 1941, Syracuse University		Thayer, Harry Homer	D.C.
Taylor, Rosalie D.	D.C.	Theken, Joyce Bloeser	Ohio
Taylor, Samuel Frederick, Jr.	D.C.	Theobald, Frederick H.	Ky.
Taylor, Shelton Billy	Va.	Theobald, Margaret Foote	Colo.
Taylor, Sylvia Laird	Pa.	Theophilus, George John	D.C.
A.B. 1948, The George Washington University		Therault, Rene John	Va.
Taylor, Thomas Hart	Ohio	Theroux, George Frederick	Va.
B.S. 1940, United States Naval Academy		A.B. 1941, University of Utah	
Taylor, Thomas Leiper	D.C.	Therriault, William Woodrow	D.C.
Taylor, Vernon	Md.	Thevenin, Esther Blanche	Iowa
Taylor, Walter Ralph	Ohio	Thibadeau, Andrew Francis	Md.
B.S. in Ed. 1947, Ohio State University		A.B. 1947, The George Washington University	
Teagle, Ernest Howard	D.C.	Thiel, John Frederick	Md.
Teague, Harold Hammer	D.C.	A.B. 1943, Emanuel Missionary College	
Tebeau, John Peter	R.I.	Thiel, LaVerne Ralph	D.C.
Techner, Martin Richard	Va.	Thienel, Phillip Marie	Ill.
Tezzar, Elizabeth Ann	Mass.	Thomas, Carl William	Mo.
Tezzar, Veronica Helen	D.C.	Thomas, Charles Buddy	D.C.
Teed, Charlotte	D.C.	Thomas, Clarence Henry	D.C.
A.B. 1928, University of Michigan		Thomas, Earl Arunah	D.C.
Teeter, Lawrence William	D.C.	Thomas, Edwin Ross	N.C.
Teeter, Virginia Joyce	D.C.	Thomas, Ernest Eugene	D.C.
Teeter, Walter William	Va.	Thomas, Franc Vesta	Fla.
Teitelbaum, Louis	Fla.	A.B. 1943, The George Washington University	
Teichin, Stanley Shay	N.Y.	Thomas, George Andrew	D.C.
Teliser, Harold Robert	N.J.	Thomas, Gerald Mayes	Ohio
Temple, Philip Barry	Ohio	Thomas, Henry Archer	D.C.
Tennant, Florence Jane	D.C.	Thomas, Henry Wolcott, Jr.	Va.
Tennant, Beatrice Elaine	D.C.	A.B. 1935, Amherst College	
Tennant, William Samuel, Jr.	S.C.	Thomas, Howard Adams	Va.
A.B. 1948, The Citadel		Thomas, Howell Garrone	D.C.
Tennery, Billy Jack	Md.	Thomas, James Louis, Jr.	Md.
Tenny, Morgan Ledyard	Md.	Thomas, John Breckenridge, Jr.	Ky.
A.B. 1947, University of Maryland		A.B. 1934, Western Kentucky State Teachers College	
Tepper, Robert Joseph	N.Y.	A.M. 1940, Indiana University	
Terkoski, Sylvester Adolf	Pa.		
Terman, Frederick	Del.		
Terrazas, Alfred	Tex.		
B.S. 1947, Texas College of Mines and Metallurgy			

Thomas, Laura Eleanor	D.C.	Thompson, Robert Louis	Ohio
A.B. 1940, The George Washington University		A.B. 1948, The George Washington University	
Thomas, Mark Poulton	D.C.	Thompson, Russell Claude	Va.
Thomas, Mary Jane	N.Y.	Thompson, Sidney, Jr.	Md.
Thomas, Mollie Jean	Va.	Thompson, Thomas Carlton	D.C.
Thomas, Myrtle	D.C.	B.S. 1948, University of Pennsylvania	Va.
B.S. 1911, Radford College		Thompson, Virgie Warner	D.C.
Thomas, Olivia Norman	Va.	Thompson, William Arthur	La.
B.S. 1910, Madison College		Thompson, William Benbow, Jr.	
Thomas, Orville Milton	Md.	A.B. 1947, University of Southern California	Va.
Thomas, Paul Augustus	Pa.	Thompson, William Blake	
B.S. 1948, The George Washington University		A.B. 1947, The George Washington University	
Thomas, Paul Bruce	Mich.	Thompson, Winifred Grace	Md.
Thomas, Ralph Leslie	Fla.	Thomson, Eugene	N.Y.
B.E.E. 1947, University of Louisville		Thomson, Robert Lee	Va.
Thomas, Raymond Carrington	D.C.	Thomson, Robert Marshall	D.C.
Thomas, Richard Ogden	D.C.	Thorn, Patricia Alice	D.C.
Thomas, Ruth	Ark.	Thorndyke, Myron Samuel	D.C.
Thomas, Ruth Lee	D.C.	Thorne, Charles Harry	D.C.
Thomas, William Bates	D.C.	Thorniley, Robert Miller	D.C.
Thomas, William Henry	D.C.	Thornton, Mary Ann	N.C.
Thomasson, Mary Magdalene	D.C.	Thornton, Percy	Md.
Thompson, Albert Lacy, Jr.	D.C.	Thorpe, Emmet Joseph	
Thompson, Allan Glasgow	D.C.	B.S. 1948, Western Reserve University	D.C.
B.S. in E.E. 1942, Montana State College		Thorp, Jacob Oliver	Miss.
Thompson, Arthur Brown, Jr.	Pa.	Threadgill, William James	
Thompson, Ben Hanford	Md.	A.B. 1947, University of Mississippi	D.C.
B.S. in Ed. 1942, Rutgers University		Thrift, Sterling Reynolds	D.C.
Thompson, Blaine Clairmont	D.C.	Thrift, William Carroll	Va.
Thompson, Carl Franklin	Mo.	Thurman, Alice Merritt	
Thompson, Colin Edward, Jr.	Va.	Thurman, Dale Leonard	Ca.
Thompson, David Lathrop	N.J.	B.S. 1939, University of Nebraska	
A.B. 1948, The George Washington University		Thurmond, Cornelius Brooks, Jr.	D.C.
Thompson, Delbert Addison	Ill.	Thurmond, James Morgan	D.C.
Thompson, Delores Mae	D.C.	Thurston, Virginia Sweeney	Md.
Thompson, Dorothy Morse	D.C.	Tibbets, Harold Venton	Mo.
Thompson, Eleanor Lee	Md.	Tibbitts, Robert Cash	Va.
Thompson, Elizabeth Anne	D.C.	Tibbott, David Winship	
Thompson, Evelyn Lee	Va.	B.M.E. 1945, University of Virginia	N.J.
B.S. 1941, Southeast Missouri State Teachers College		Tichenor, Marjorie Ann	D.C.
Thompson, Frank Revell	Va.	Tiches, Cook James	Md.
Thompson, Garland Parnell	D.C.	Tickel, Jobe Carlton	D.C.
Thompson, Genevieve Anna	D.C.	Tickin, Howard Erwin	Md.
Thompson, Geraldine	Oreg.	Tidler, Harold Stanley	N.Y.
Thompson, Grace Bishop	D.C.	Tiedemann, Frank Henry	
A.B. 1928, East Carolina Teachers College		B.B.A. 1943, College of the City of New York	N.Y.
Thompson, Harold Edward	Fla.	Tighe, John Francis	Pa.
Thompson, Harry Francis	Md.	Tighe, Paul Neuman	D.C.
Thompson, James Douglas	D.C.	Tileston, Perley Dominic	D.C.
Thompson, James Pollard	Md.	Tilae, Marie Rose	Md.
Thompson, John Paul	Va.	Tillem, Kalman	
Thompson, Lane Storer	D.C.	B.S. 1935, Brooklyn College	
Thompson, Laura Josephine	D.C.	M.S. in Ed. 1937, College of the City of New York	
Thompson, Louis Clifford	Fla.	B.H.L. 1937, Jewish Theological Seminary of America	Wash.
Thompson, Louis Hamilton	Ohio	Tillema, Juliet Packer	Va.
Thompson, Lucius Fred	Tenn.	Tilley, Emerson Scott	Md.
Thompson, Mary Agnes		Tilley, Jane Middleton	
B.S. 1910, State Teachers College, Memphis, Tenn.		A.B. 1948, Connecticut College	N.Y.
A.M. 1936, University of Tennessee		Tillman, Murray	N.Y.
Thompson, Mary Lucille	Va.	A.B. 1944, Brooklyn College	
Thompson, Myrtle Baber	Va.	Tillmann, Alfred Albert	
Thompson, Philip Adams	Va.	B.S. 1941, New York University	Va.
Thompson, Ralph Franklin	Kans.	Tilton, Paul Lambert	
Thompson, Robert Earl	D.C.	B.S. 1938, M.S. 1939, Massachusetts Institute of Technology	Va.
Thompson, Robert Lee	Pa.	Tilton, John Snyder	
		A.B. 1948, The George Washington University	

Timberlake, George Taylor	Va.	Tomkins, Virgil Everett	N.Y.
Timbie, Donald Nute	Md.	B.S. 1942, State Teachers College, Albany, N.Y.	
B.S. in E.E. 1930, Massachusetts Institute of Technology		Toner, Mary Cunningham	D.C.
Timken, Jeanne Tuerk	Md.	Tong, Koon Wong	Hawaii
Timmins, Joseph Edward, Jr.	Va.	Tonkin, Edward Eugene	Md.
Timmons, Robert Lee	D.C.	Tunkovich, Andrew Adolph	Ill.
Timms, Edyth Alice	Mass.	Tonty, Carl Joseph	Pa.
Timms, Molly Anne	Md.	Toole, Bruce, Jr.	Md.
Tindle, Kenneth Norman	D.C.	Toole, Wilbert Walder	Va.
Tinkelenberg, Albert David	D.C.	B.S. 1941, Central State College of Maryland	
Tinsley, Thomas A.	Pa.	Toomey, John Samuel	Tenn.
B.S. 1948, University of Scranton		Toomey, John Wickfield	N.Y.
Tips, Rose Ramsay	D.C.	B.S. in E.E. 1942, University of Michigan	
Tipton, Clarence Lee	D.C.	Toomey, William Joseph	D.C.
Tipton, Wellstood White	Md.	A.B. 1928, A.M. 1930, St. Louis University	
Tischbein, Sally Ann	D.C.	Toompas, Charles Arthur	W.Va.
Tise, Vernon Joseph	D.C.	A.B. 1938, West Virginia University	
Tisinger, Jean Marie	D.C.	Topitzky, Dorothy	N.Y.
Title, Irwin	D.C.	A.B. 1944, Brooklyn College	
Titone, Charles Franciscos	N.Y.	Topp, Mary Lucile	D.C.
Tittrington, George Frank, Jr.	D.C.	Topp, Max Edward	Conn.
Titteler, Ruby Bonita	D.C.	A.B. 1934, University of Pennsylvania	
Titus, Elijah White, Jr.	D.C.	Topping, John Robert	Va.
Titus, Jack Clarence	D.C.	Tor, Mildred Helen	D.C.
B.S. 1933, United States Naval Academy		Torcasso, Roy Reed	Wash.
Tivnan, John Thomas	Mass.	Torchin, Norman Gilbert	D.C.
Tabar, Fuson	D.C.	Tornillo, Gertrude	D.C.
To, Kuo-Chu	D.C.	Toro, Rafael Andres	Puerto Rico
Toal, Vincent James	D.C.	B.S. 1921, University of Puerto Rico	
Tobias, James Howard	Pa.	M.S. 1925, Cornell University	
Tobin, Kenneth Edmund	Md.	A.M. 1926, Harvard University	
B.S. 1947, Georgetown University		Torres, Manuel Acemiro	D.C.
Tobin, Ralph Aloysius	W.Va.	Torrey, William Abner	D.C.
Tod, Roy Stewart	Va.	Toscano, Peter Ralph	N.Y.
Todd, John George	Pa.	Toth, Joseph	N.Y.
Todd, Vernon Richard	Md.	Toth, Joseph Ralph	Md.
Todd, William Henry	D.C.	B.S. 1938, University of Minnesota	
Toel, Myra Nan	Md.	Totten, Isabel Ann	Pa.
Toffalo, Dominic Samuel	D.C.	Tottle, Edward Loring	Maine
B.F.E. 1944, The George Washington University		Tourangeau, Dolores Irene	D.C.
Tof, Beigut	Iowa	Touster, Owen	N.Y.
Torvonen, Aino Inkeri	D.C.	Tourne, Harriet Bartlett	Ohio
Toline, Francis Raymond	Nebr.	A.B. 1935, Western Reserve University	
Tollefson, Charles William	D.C.	Tovera, Candido Mulate	Philippines
Tollefson, Robert Homer	D.C.	Townsend, Charles Eby	D.C.
Tollett, Edgar Hugh	N.M.	A.B. 1948, The George Washington University	
Tolley, Howard Elmer	Va.	Townsend, Eileen May	D.C.
B.S. 1946, University of California		Townsend, John Edward	N.I.
Tolley, Mariorie Elizabeth	D.C.	Townsend, Marion Rhodes	D.C.
Tolley, Nellie Conner	D.C.	Townsend, Nathaniel	D.C.
Tolley, Virginia Elizabeth	Va.	Townsend, Richard Michael	D.C.
Tolliver, John Sheridan	D.C.	Townsend, Robert Arnold	Mass.
Tolliver, Robert James	S.D.	B.S. 1941, Harvard University	
Tolson, Evelyn Hurd	D.C.	Townsend, Woodrow Emory	Md.
Tolson, Raymond Lee	Va.	Toxen, Arnold Martin	D.C.
Tolson, Robert Hough	D.C.	Tozier, Alvin Ozo	Maine
Tolstoy, Ivan	D.C.	Traband, Sara Lucille	Md.
B.S. 1945, Sorbonne University		B.S. 1948, University of Maryland	
A.M. 1947, Columbia University		Trabb, Ralph	N.Y.
Tom, David	N.Y.	A.B. 1947, The George Washington University	
Tomashek, Ruth Alice	Pa.	Tracey, John Charles, Jr.	D.C.
Tombaugh, Paul Leslie	Ill.	Trafton, Iona	Maine
B.M.E. 1946, Georgia School of Technology		Traina, Dominick Robert	N.Y.
Tombere, Sybil Blanche	N.Y.	B.S. 1942, University of Maryland	
Tomchick, Robert	D.C.	Trainer, Robert Frazer	Md.
Tomlinson, William Burrington	N.J.		
Tompkins, John Ettinger	Va.		
Tomkins, Leonard George	Va.		

Trainham, Elizabeth Hunter	Va.	Trueworthy, Orson William	D.C.
B.S. 1928, College of William and Mary		B.S. 1936, Wilson Teachers College	
Trainor, James Herbert	Pa.	A.M. 1940, The George Washington University	
Trainor, Kenneth Edwin	D.C.	Trulock, Sue Baylor	D.C.
Trainer, Mabel Oakley	D.C.	Truluck, Johnnie H.	Va.
Trammell, Rose Mary	Md.	B.S. 1928, Coker College	
Transou, Lucile Virginia	D.C.	Trumbull, Robert Gay, Jr.	R.I.
A.B. 1932, College of William and Mary		Trumper, Mary Madelaine	Ill.
Trapp, Madge Irene	N.Y.	Trussell, Charles Tait	D.C.
Traugott, Stephen Charles	Md.	Trussell, Galen Douglas	D.C.
Traulup, William Max	D.C.	Tschackofsky, Alfred	D.C.
Trautvetter, Robert Simmons	N.J.	Tuberty, John Patrick	Pa.
Travaglini, Constance	Va.	A.B. 1946, Lehigh University	
Travaglini, Vincent D.	Va.	Tuchmann, Norman	Conn.
Traylor, James Edward	Va.	A.B. 1948, The George Washington University	
Traylor, Lawrence Milton	D.C.	Tucker, Annabelle Yates	Va.
Treadway, Leon Wesley	Va.	Tucker, Betty Kimbroogh	Va.
Treakle, Hugh Charles	Md.	Tucker, Clyde David	Vt.
B.S. 1941, University of Maryland		Tucker, Harry Jackson, Jr.	D.C.
Treakle, Paul Wyatt	D.C.	Tucker, Lyman Ray	Tex.
Treasure, Paul Kenneth	Pa.	Tucker, Nancy Jane	D.C.
Treasure, Ruth Virginia	Ohio	Tucker, Peggy Lucille	Md.
A.B. 1948, Ohio State University		Tucker, Simon	N.Y.
Trenaman, John Irving	Va.	B.S. 1940, College of the City of New York	
A.B. 1941, University of Illinois	W.Va.	M.P.A. 1943, New York University	Va.
A.B. 1941, Marshall College		Tucker, Virginia Anne	
Trentacosti, Rosario Charles	N.Y.	A.B. 1948, Agnes Scott College	N.Y.
Treumann, Walter	D.C.	Tuckman, Charles William	D.C.
Trever, Robert William	Va.	Tugendhaft, Robert Irwin	
Trible, William MacLachon	D.C.	B.S. 1948, The George Washington University	
A.B. 1943, Princeton University		Tulenko, Joseph George	Md.
Trickett, Arthur Rolland, Jr.	D.C.	Tuley, Charles Brown, Jr.	D.C.
Tumble, Anne Elizabeth	Va.	Tull, Robert Lewis	D.C.
A.B. 1925, University of Colorado		Tully, Jean Alice	Va.
Tumble, Eugene Earl	Ky.	Tully, John Montgomery	W.Va.
Tumble, Mary Allen	D.C.	Tully, Richard Edward	Ill.
Tumble, South	D.C.	Tumarkin, Janet Beverly	N.J.
B.S. 1948, University of North Carolina		Tumicki, John Benedict, Jr.	Conn.
Triplett, Robert Samuels	Ky.	Tupman, Edgar Minter	Va.
B.S. 1940, Kent State University		Tupman, Elizabeth Spencer	D.C.
A.M. 1941, University of Chicago		Tupper, Charles Donald	D.C.
Triplett, Virginia Ellen	Va.	Tupper, Genevieve Frances	Kans.
Tripp, Richard Carlton	Iowa	Turberville, Alice Atwill	Va.
A.B. 1947, State University of Iowa		B.S. in Ed. 1941, Mary Washington College	
Tririole, Ruth Virginia	Va.	Turbeville, Bernice Fielder	S.C.
Trittabaugh, Kenneth Franklin	D.C.	Tureo, Rudolph Joseph	D.C.
Tritle, Richard Reed	D.C.	Turnbull, Samuel Jay	D.C.
Trittipoe, William Jennings	D.C.	Turner, Billy Eugene	D.C.
Triviz, Edward Ernest	N.M.	Turner, Clarence William, Jr.	
A.B. 1942, New Mexico College of Agriculture and Mechanic Arts		B.S. in M.E. 1947, Purdue University	Md.
Trobia, Frank Joseph	Va.	Turner, Edward Clarence	
Troiano, Frank Anthony	N.Y.	B.S. 1941, University of Maryland	
A.B. 1949, The George Washington University		Turner, George H.	D.C.
Trombley, Kenneth Edward	Md.	Turner, Humphrey Lewis	Va.
Trompeter, Richard William	S.D.	Turner, Jack Alvin	D.C.
B.S. in E.E. 1947, South Dakota School of Mines and Technology		Turner, James Samuel	Va.
Tron, Robert Augustus	D.C.	Turner, JoAnne	Calif.
Troop, Harrison Donald	N.Y.	Turner, Justine Therese	D.C.
Trotta, Rose Mary	Pa.	Turner, Laura Lucille	D.C.
Trotter, Bernard Eugene	D.C.	Turner, Malford Charles	N.D.
Troy, Paul Joseph	N.Y.	Turner, Marie Louise	Md.
Truax, Allan Bishop	D.C.	A.B. 1944, The George Washington University	
Trueheart, William Clyde	Va.	Turner, Mary Carolyn	Ill.
B.S. 1939, A.M. 1941, University of Virginia		Turner, Mary Johnston	D.C.
		Turner, Mary Joy	S.C.
		Turner, Max M.	Tenn.
		B.S. 1948, Georgetown University	

Turner, Netta Elizabeth	D.C.	Uretsky, Martin Davis	N.Y.
Turner, Richard Crawford	Va.	A.B. 1948, New York University	
Turner, Richard Pender	Va.	Uretz, Lester Robert	Wis.
Turner, Sarah Anne	La.	I.D. 1948, University of Chicago	
A.B. 1931, A.M. 1935, Louisiana		Urquhart, John Goodale	Md.
State University		B.S. 1928, United States Naval	
Turner, Virginia Strom	Tex.	Academy	
Turney, Joanne	Calif.	Ussery, Harry McRae	N.C.
Turney, Robert Fletcher	Va.	Ussio, Anna Dolores	Pa.
Tutte, Dorothy Edith	Wash.	Ustun, Semah Avdemir	D.C.
Tway, Lawrence Edward	Calif.	Utredt, Robert Packard	D.C.
Tweed, John Franklin	D.C.	Uweiztieta, Israel	P.C.
Twery, Betty Jean	D.C.		
Twing, Shirley W.	Md.	V	
Twining, James Edward, Jr.	N.J.		
A.B. 1941, Union College		Vaccaro, Camillo Jimmie	D.C.
M.S. 1943, Syracuse University		Vache, Barbara Marie	Ohio
Tyler, Charles Raymond	D.C.	Vail, Benjamin Anthony	W.Va.
Tyree, Mary Lee	D.C.	A.B. 1940, West Liberty State College	
Tyrell, Richard Campbell	N.Y.	Valanos, Constantine George	D.C.
Tyson, Jean Carol	Fla.	Valdez, Margaret	N.M.
A.B. 1947, The George Washington		Valencia-Abelardo, del Rosario, Jr.	D.C.
University		Valentine, Raymond Lee, Jr.	D.C.
Tzarnes, Christ	D.C.	Valentini, Philip Endicott	D.C.
A.B. 1947, The George Washington		Valenzi, Joseph Thomas	N.Y.
University		Valenzi, Louise Mary	N.Y.
U		Valerius, Helen	Wyo.
Ubel, Harriet L.		Valiant, Edward Alfred	Md.
Uehlinger, John Clark	Minn.	Valk, Henry Snowden	Md.
Ugel, Stanley Zoul	D.C.	Vallarino, Roberto, Jr.	N.H.
Uhl, Charles Christian	D.C.	Valler, Horace Joseph, Jr.	N.J.
Uhl, John Phillip	Md.	B.S. 1948, Hobart College	
Uhler, Marcus Halder	Va.	Valles, Fred Sylvester	Wyo.
Uhlinger, Percy Edward	D.C.	Valliant, T. Robert	Va.
Uhrik, Irene Joan	Calif.	Valone, Francis Paul	N.Y.
B.S. 1943, M.S. 1946, Pennsylvania	Pa.	B.S. 1948, Union College	
State College		Valone, Jeanne Catherine	N.Y.
Ukrzynowski, Graal Axel	D.C.	A.B. 1945, Mount Holyoke College	
Ulsack, Henry Thomas	D.C.	A.M. 1946, Columbia University	
A.B. 1947, The George Washington		Valsi, Joseph John	D.C.
University		Van Allen, Peter	D.C.
Ulrich, Robert James	Wis.	Van Allen, Roland Louis	Va.
A.B. 1948, The George Washington		Vanatta, Glen	Ohio
University		Van Brizgle, Robert Dallas	Mo.
Umar, Yassin	D.C.	Vance, Andrew Peter	D.C.
A.B. 1944, The George Washington		A.B. 1948, Harvard University	
University		Vance, Catherine Peter	D.C.
Umhan, John B.	D.C.	Vance, John Thomas	D.C.
Usholtz, Willis Ernest	D.C.	A.B. 1947, Montana State University	
Umstead, Lyman John	Pa.	Vance, William Frank	Ala.
A.B. 1948, The George Washington		A.B. 1941, Birmingham-Southern College	
University		Vandavere, Georgiana T.	D.C.
Underwood, Harry John	Mich.	Vandenberg, Martin Aloysius	D.C.
Underwood, William McLean	D.C.	Vandergrift, Paula	D.C.
Unger, Howard Robert	D.C.	Vanderhyden, Jay Henry	Va.
Unia, Carlo	D.C.	Vandermause, Orville Joseph	D.C.
Unkenholz, Willard Clifton	D.C.	B.S. in Ed. 1941, State Teachers	
B.M.E., 1948, College of the City	N.Y.	College, White Water, Wis.	
of New York		Vanderpol, Jack	N.Y.
Unzicker, Roy Kenneth	Va.	Vanderslice, Clara C.	Pa.
Updike, Merle Louise	Va.	B.S. 1935, State Teachers College,	
B.S. in Ed. 1944, Mary Washington		Bloomsburg, Pa.	
College		VanDeurs, Ann Shepard	Va.
Uphoff, James Harold	Va.	Van Deusen, John	D.C.
Upson, Helen Rena	Conn.	A.B. 1948, Brown University	
Upson, Emily Francis	Md.	Van Devander, Evelyn Wood	D.C.
B.S. 1946, University of Maryland		Van Devanter, James Lee	Md.
Uransky, Norman A.	Ohio	Van deWater, Malcolm Strickle	Fla.
A.B. 1947, Oberlin College		Van Diest, Charles Joseph	Belgium
Urban, Robert Thornton	D.C.	B.S. 1948, Sir George Williams College,	
Urbanske, Leo, Jr.	Va.	Montreal, Canada	
		Van Doremalen, Alice Suzanne	D.C.

Van Geldaren, Bertha Elizabeth A.B. 1946, The George Washington University	D.C.	Vazquez, Bernardino Veach, Vivienne Esther Vega, Miguel Elpidio A.B. 1935, LL.B. 1938, University of Puerto Rico	D.C. Ohio D.C.
Van Giezen, Christianus A.P. Van Gorder, Lewis George B.S. 1943, State Teachers College, Mansfield, Pa.	D.C. Va.	Veily, George Grover Velder, Milton	Md. Md. Calif.
Vangtal, Tavon Van Horn, Charles Edgar Vanier, Josef Paul Van Leunen, P., Jr. B.S. 1934, United States Naval Academy	D.C. Md. D.C. Ohio	Vella, Walter Francis A.B. 1947, University of California Vellis, Demetrius John B.S. 1940, United States Naval Academy	Calif.
Van Meter, Ellsworth Evans A.B. 1932, Indiana State University	Va.	Veltmann, Yvonne Marie Venezky, David Lester B.S. 1948, The George Washington University	Tex. D.C.
Van Meter, Mae Brown B.S. 1931, Madison College	Va.	Venezky, Edith Rita	D.C. Pa.
Van Meter, Marie Frances Miller B.S. in Ed. 1940, University of Alabama	Ill.	Venick, Jacob Vera Cruz, Caridad Garcia Vernland, Edna Elizabeth Vernoff, Samuel	D.C. Minn. N.Y. Maine
Van Meter, William Garrett Van Metre, Albert G.	Va. Va.	Verrill, Walter Jackson	N.J. Va.
Van Muysen, Luce Marie Baccalaureat 1945, Athenne Royal D'Ixelles, Brussels	Belgium	Verta, James Vertner, Edmund Kearny, Jr.	D.C. N.Y.
Vann, Maurine Elizabeth Van Neste, Wilbur Lane Van Nimwegen, Leonard Van Nostrand, Jacqueline Joice Van Ostrand, Dean Beity B.Ch.E. 1948, Rensselaer Polytechnic Institute	Md. N.J. N.J. Va. N.Y.	Vesamaa, Kaija Kyllikki Vespole, Michael James Vest, Larry Woodrow Via, Elmer Guy, Jr. Via, Raymond Bernard Vicino, Dominic Joseph Vick, Billy McGuire Vick, David Franklin	Va. Va. D.C. D.C. Va. Va. Va.
Van Riawick, Guy Everett Van Sanford, Gordon Myron Van Schelven, William Van Scoyoc, Gardner Warren Van Sickle, Marilyn Mae Van Sickler, Francis Lane A.B. 1933, University of Richmond	Va. N.M. Md. Va. D.C. Va.	Vicory, Howard Morton Vidal, William Vier, William Frederick, Jr. Viets, Ronald Lamont Vigness, Helen Anne Vigoreaux, Jose Ramon Viguera, Edward Edwin Vijaranabutara, Charnarong Villalon, Edward Gonzales Villarejo, Oscar Milton A.B. 1947, The George Washington University	Puerto Rico Va. Calif. D.C. D.C. D.C. D.C. D.C.
Van Staden, George Arthur Van Story, James Cornelius, Jr. A.B. 1948, The George Washington University	N.Y. D.C.	Villechaise, Jean Andre Doctor of Laws, 1946, Sorbonne University	D.C.
Van Swearingen, Earl Kendall B.S. 1927, United States Naval Academy	Hawaii	Villella, Gerald Anthony Vincent, Charles Leroy Vincent, Ellalee Fairfax Davis Vincent, Francis Everett Vincent, Jacquelyn Fairfax Davis Vincent, John Elmer B.S. in Ed. 1948, State Teachers College, Millersville, Pa.	D.C. Fla. Va. Va. Va. D.C.
Van Tilburg, Kenneth William Van Tol, Peter Hendrik Benjamin Van Uitter, LeGrand Gerard Vanzandt, Juanita Seay Van Zwaren, Anita Varick, Lawrence Varoutsoos, Paul George Vartabedian, Dorothy Margaret Varvaresos, Yvonne Vary, Willis L. Vasil, Michael Vass, Richard Branson Vaughan, Eleanor James B.S. 1942, University of Maryland	Va. W.Va. D.C. Ky. D.C. N.J. Va. D.C. D.C. D.C. D.C.	Vinciguerra, John Vincent A.B. 1939, University of Akron Vinet, Alton Joseph Vinkenes, Stanley Charles Vintila, Mary Jane Violi, Geraldine Ann Viola, Gennaro Violette, John Homer A.B. 1925, Louisiana State University Ph.D. 1931, Yale University	Va. Ohio D.C. Va. Ohio N.Y. Italy Va.
Vaughan, Joseph Harrison Vaughan, Kenneth Lang Vaughan, Leonard Walton Vaughan, Margaret Ellen Vaughn, Ann Virginia A.B. 1948, Sweet Briar College Vaughn, Robert Lockard Vaurhter, Swift A.B. 1928, Mercer College Vause, Robert Zeno, Jr. B.S. 1943, University of South Carolina A.M. 1947, Duke University	N.Y. Va. D.C. R.I. D.C. Ga. S.C.	Virden, Frank B.S. 1927, United States Naval Academy Virga, Elizabeth Catherine Virts, Earl Edward, Jr. Vissering, Victor Manley, Jr. B.S. 1941, Eureka College Vitale, Guy	Md. Va. Ill. D.C.

Vitale, Michael Joseph	N.J.	Wadman, Alton Justin	Md.
Vitale, Nicholas Augustine	N.Y.	B.S. 1948, Massachusetts Institute	
Vitale, Samuel Francis	D.C.	of Technology	
Vivion, Charles George	Wyo.	Wado, George Alton	Va.
Vleck, Myron Edward	Oreg.	Wadsworth, Dorothy Mae	Pa.
B.S. 1944, The George Washington		Waggonheim, Zelah	D.C.
University		Wagman, Barlow Jacob	D.C.
Vlier, Leland Arthur	Va.	Wagman, Donald David	Mich.
A.B. 1944, The George Washington		B.S. 1940, A.M. 1944, The George	
University		Washington University	
Vlier, Mary Gladys	Va.	Wagman, Evelyn Lucille	D.C.
B.S. 1945, College of William and		Wagman, Theodore David	Mass.
Mary		A.B. 1939, A.M. 1940, Boston	
Voelkel, Jack Clare	Ill.	University	
A.B. 1948, The George Washington		Wagner, Arthur Philip	N.J.
University		Wagner, Carlene Patricia	N.Y.
Vogel, Alphonse	D.C.	Wagner, Elinor Jane	Ohio
LL.B. 1931, University of Bucharest		A.B. 1940, B.S. in Ed. 1941, Uni-	
Vogel, Alice Elaine	N.Y.	versity of Cincinnati	
A.B. 1946, Hunter College		Wagner, Eugene Edward	Md.
A.M. 1948, Columbia University		Wagner, Frank C. Jr.	Md.
Vogel, Barbara Marie	D.C.	Wagner, Harry Larue	D.C.
Vogel, Bertram Marvin	D.C.	Wagner, Jean Leona	Va.
Vogel, Christine	Calif.	Wagner, John Oliver	Va.
A.B. 1948, University of Southern		Wagner, John Robert, Jr.	Md.
California		Wagner, Joseph Frank, Jr.	D.C.
Vogel, George Paylos	D.C.	Wagner, Nancy M.	Md.
Vogel, Millicent Jeanne	Md.	A.B. 1940, Vassar College	
A.B. 1947, Indiana University		Wagner, Richard	Va.
Vogel, Morton Selvaider	D.C.	B.S. 1927, United States Naval	
Vogel, Ralph Henry	Calif.	Academy	
B.S. 1946, Harvard University		Wagner, Robert Roderick	N.Y.
Vogel, Seymour	N.Y.	A.B. 1941, Columbia University	
Vogelhuber, George Curtis, Jr.	Ohio	M.D. 1946, Yale University	
B.S. in Ed. 1947, Ohio State University		Wagshal, Jerome Stanley	D.C.
Vort, Allan Frederick	Md.	Waltman, Charles	N.Y.
Voght, Dorothy Christine	Va.	Waide, Helen Inez	Va.
Volin, Rudolph Herbert	D.C.	A.B. 1944, Mary Baldwin College	
Volland, Robert Joseph	Md.	A.M. 1941, Columbia University	
Volz, Charles Harvey Michael	D.C.	Wagner, Jack	D.C.
Vonelf, John Dunbar	D.C.	A.B. 1947, The George Washington	
Vonneuman, Nicholas August	Va.	University	
S.D. 1933, University of Budapest		Wainstein, Leonard	N.Y.
Von Ruden, Mary Ann	Wis.	Walt, Nancy Jane	D.C.
Von Strader, Chandler Lee	Iowa	Walt, Sumner	Va.
Vorhies, Charles Frederick	D.C.	A.B. 1931, University of Maine	
Vorhies, Ruth Ann	D.C.	Waldenfeld, Amos	D.C.
A.B. 1945, Alfred University		Wake, Charles Louis	Calif.
M.S. 1946, Smith College		Wakefield, Walter Frederick	D.C.
Vorder Bruegge, Howard Joseph	Tenn.	Wakefield, William Robert	D.C.
Voumek, Elizabeth Louise	D.C.	Walburn, Marjorie Harriett	Md.
Voulzaris, Kristallo	D.C.	Walcott, Shirley Ann	D.C.
Vroom, Oliver Evans	D.C.	B.S. in Ed. 1948, Wilson Teachers	
		College	
		Walden, Jack Tillman	D.C.
		B.S. 1938, Birmingham-Southern College	
		Walden, Mary Saunders	D.C.
		Waldia, George Albert	W.Va.
		Waldron, Carl Martin	Va.
		Waldron, Marjorie Alice	Va.
		Waldron, Richard Vernell	Ill.
		B.S. in Ed. 1948, Southern Illinois	
		Normal University	
		Waldrop, Francis Neil	Md.
		A.B. 1946, University of Minnesota	
		Waldstein, Anne Marie	D.C.
		Waldstein, Edward	D.C.
		Wales, Charles Porter	Md.
		Wales, Kenneth Sanford, Jr.	Md.
		B.S. 1948, University of Pennsylvania	
		Wales, Maunida Sue	Va.
		Wales, Robert Oliver	D.C.
		B.S. 1947, The George Washington	
		University	

W

Waalkes, T. Phillip	
A.B. 1941, Hope College	
Ph.D. 1945, Ohio State University	
Wack, Richard Francis	D.C.
Wacker, Stella Czuba	Md.
A.B. 1937, Ohio State University	
Wacker, Warren Ernest	Va.
Waddell, Guy Post	D.C.
Wade, Harold Newton	Ga.
Wade, Charles Joseph	D.C.
Wade, Eugenia Kay	Tex.
Wade, James Chaffin	Va.
Wade, Richard Rudolph	D.C.
Wade, Robert Lee	D.C.
Wade, Susie Belle	Tenn.

Walinsky, Edward Pius	Pa.	Walstrom, Charles Bowen	Mo.
Walker, Alice Elaine	Md.	A.B. 1940, The George Washington University	D.C.
A.B. 1947, The George Washington University		Walter, David Eberhardt	Minn.
Walker, Brent Friend	D.C.	Walter, Elmer Herman	Md.
Walker, Dale Bryan	N.M.	Walter, Joseph Edward	
Walker, Genevieve Marie	D.C.	B.S. 1934, University of Maryland	Md.
Walker, George Russell	D.C.	Walter, Katharine Miriam	
Walker, Gerald Cooper	D.C.	B.S. 1944, The George Washington University	D.C.
Walker, Helen Ruth	D.C.	Walter, Richard Henry	Va.
B.S. 1938, Wilson Teachers College		Walterick, Eugene Woodrow	Pa.
Walker, Isabelle Pennington	Ky.	Walters, Elvin Winfred	Ind.
A.B. 1934, Centre College		Walther, Alvin George	D.C.
A.M. 1935, Gallaudet College		Walton, Howard Lacy, Jr.	D.C.
Walker, James Kenneth, Jr.	Ohio	Walton, Hugh McKelden	D.C.
Walker, Jimmie Albert	Tex.	B.S. 1942, University of Maryland	D.C.
Walker, John	Md.	Walton, June Dahne	D.C.
Walker, John C.	Md.	Walton, Thomas Snyder	
Walker, John Cusworth III	D.C.	B.S. 1945, The George Washington University	D.C.
A.B. 1948, Duke University		Waltz, Helen Kathryn	
Walker, John Gemmell, Jr.	D.C.	A.B. 1947, Gettysburg College	Va.
B.S. 1949, Wilson Teachers College		Walworth, Kathleen Ann	N.D.
Walker, John Robert	La.	Wambach, Richard Fidelias, Jr.	
Walker, John Sherrard Brittain, Jr.	D.C.	A.B. 1948, Duke University	Va.
Walker, Kaye Ann	Tex.	Wampler, Frederick Francis	
Walker, Mark Edward	D.C.	A.B. 1947, Bridgewater College	Ind.
Walker, Michael Jerald	N.J.	Wamples, Paul Edward, Jr.	N.Y.
Walker, Paul Howard	Miss.	Wandel, Fred Charles	N.Y.
LL.B. 1948, The George Washington University		Wandel, Marie F.	
Walker, Peyton Gardner	Va.	B.S. in Ed. 1941, College of the City of New York	D.C.
Walker, Pleas Milton	N.Y.	Wang, David	China
Walker, Russell Louis	Va.	Wang, Hsueh-jeh	
Walker, Thomas Jefferson	Miss.	A.B. 1944, LL.B. 1946, The George Washington University	D.C.
Walkinshaw, Walter	Wash.	Wang, Tseng Fu	N.Y.
A.B. 1939, University of Washington		Want, Dorothy Westerman	Pa.
Wall, Conrad Grey	Md.	Wapinsky, Joseph Francis	Iowa
Wall, Emily Virginia	Wash.	Warburton, John Higgins	Md.
A.B. 1941, State College of Washington		Ward, Claude Marvin	D.C.
Wall, Stanley James	D.C.	Ward, Clinton Dudley	D.C.
Wallace, Bernice V.	Tenn.	Ward, Edward Francis	
Wallace, Charles Earl	Tenn.	B.S. 1946, The George Washington University	Mass.
Wallace, Ira Robert	D.C.	Ward, Elbert Hayden	D.C.
Wallace, James David, Jr.	Ala.	Ward, Glenn Richard	D.C.
Wallace, John Berry	D.C.	Ward, Harry Joseph	D.C.
B.S. 1948, Georgetown University		Ward, Jerry John	Va.
Wallace, Joseph William, Jr.	Mass.	Ward, John Albert	Pa.
Wallace, Walter Harold	Va.	Ward, John Wesley	Md.
A.B. 1935, West Virginia University		Ward, Laura Mae	D.C.
Wallack, Charles Frank	Va.	Ward, Paul Andrew	
Waller, Lloyd Arthur	D.C.	A.B. 1938, Municipal University of Omaha	D.C.
Waller, William Warren	D.C.	Ward, Thomas Joseph	D.C.
Wallerstein, David Daniel	N.Y.	Warden, Burdett Stryker, Jr.	Va.
Walley, George, Jr.	W.Va.	Wardlaw, Gladys Anne	Va.
Wallick, Robert Daniel	D.C.	Wardrip, Schuyler Clark	
B.S. in E.E. 1948, Lehigh University		Wardwell, Alice Gerda	Va.
Walls, Edward Lowery, Jr.	Mo.	A.B. 1947, Pembroke College	Ky.
Walp, Lois A.	Pa.	Ware, Anne Kriete	
Walsh, David Arthur	D.C.	Ware, Frances Lee	W.Va.
Walsh, Francis Joseph	Mass.	A.B. 1940, University of Louisville	D.C.
A.B. 1936, LL.B. 1939, Harvard University		Ware, Keith Eugene	D.C.
Walsh, George Joseph	Va.	Ware, Robert Stephens	Va.
Walsh, James Franklin	D.C.	Warfel, Robert James	D.C.
B.S. 1946, University of Illinois		Warfield, Richard Myers	D.C.
Walsh, Jane Angela	D.C.	Warford, Mildred	Md.
Walsh, Josephine Ann	D.C.	Warick, Lawrence John	
Walsh, Walter Rudolph	Va.	Waring, Richard Burleigh	
Walsh, William F.	D.C.		
B.S. 1945, Georgetown University			
Walstein, Carl John	Va.		

Warlick, Glenard Lee B.S. 1936, Appalachian State Teachers College, N.C.	Md.	Watson, Donald Taylor B.S. 1941, New York State Teachers College	N.Y.
Warlick, James Bowen	D.C.	Watson, Eleanor Jane	D.C.
Warmack, William Davies	D.C.	Watson, James Edwin A.B. 1941, Colgate University	W.Va.
Warner, Brainerd Henry III B.E.E. 1946, Yale University	Md.	Watson, John A.	D.C.
Warner, Constance Philpitt	D.C.	Watson, John Salley	D.C.
Warner, Denra Wallace	D.C.	Watson, Pamela Helen	Va.
Warner, Donald Gifford	Md.	Watson, Philys Anne	D.C.
Warner, Gerald Lee	D.C.	Watson, Richard B.S. 1940, Washington and Jefferson College	Pa.
Warner, Joan Carol R.S. 1942, Duquesne University	D.C.	A.M. 1941, University of Chicago	
Warner, John William	Va.	Watson, Richard Armistead	Va.
Warner, Philip Lambert A.B. 1948, American University		Watson, Robert	D.C.
Warner, William Clafin	Md.	Watson, Vera Virginia	Va.
Warren, Howard Fanes	N.C.	Watson, Virginia	Wis.
Warren, James Gates A.B. 1948, Duke University	D.C.	Watt, William Alexander	Va.
Warren, James Ross	D.C.	Watts, Byron C. A.B. 1949, The George Washington University	D.C.
Warren, Joan Shirley	D.C.	Watts, Frank Benjamin	Mich.
Warren, Marguerite Elizabeth	D.C.	Watts, Grezz Dean	Ohio
Warren, Mary Lois	Ala.	Watts, Holt Fairfield Butt, Jr.	Va.
Warren, Mary Lowell	D.C.	Watts, Nancy Thompson B.S. 1940, Winthrop College	S.C.
Warren, Virginia Caroline	Pa.	Waugh, Carolyn Lydia	Maine
Warren, Virginia Nesbitt	Va.	Waugh, Perry Eugene	Ill.
Warren, William Wallace	D.C.	Waxman, Morris	N.Y.
Warwick, Annette	D.C.	Waxman, Seymour	N.Y.
Warwick, Helen	D.C.	Way, Joseph Dale	Pa.
Warthen, Sibyl Mary	D.C.	Wayland, Clarence Raymond	D.C.
Wartofsky, Marilyn	D.C.	Ways, Douglas Arthur	W.Va.
Warwick, Harvey Hodgen, Jr.	D.C.	Weasmer, Charles Brent	D.C.
Wascak, Katherine Mary	D.C.	Weatherly, Norma Pearl	Va.
Waudin, James Raymond	Md.	Weathers, Milledge Wright	Ga.
Washington, Fielding Lewis A.B. 1946, Lafayette College	Va.	Weaver, Douglas Price A.B. 1948, The George Washington University	Iowa
Washington, John Augustine	Va.	Weaver, Frank Lloyd, Jr. A.B. 1947, The George Washington University	Md.
Washom, Paul Stephen	Md.	Weaver, Gilbert Earl A.B. 1947, Lenoir-Rhyne College	D.C.
Wasser, Frances Rothberg A.B. 1947, The George Washington University	D.C.	Weaver, Patricia Ann	N.Y.
Wasserman, Selma	D.C.	Weaver, Paul Elwood B.S. 1948, United States Military Academy	D.C.
Watanabe, Kazuo A.B. 1948, University of Hawaii	Hawaii	Weaver, Rosemary Annette	D.C.
Waterman, Rich Leeman	D.C.	Weaver, Roxane Beverly	Mass.
Waterman, Ruth Abigail	D.C.	Webb, Claude Anderson	Va.
Waters, Ethel Davis	Va.	Webb, Donald James	Wyo.
Waters, George Francis	Va.	Webb, George Jerome	Fla.
Waters, George Leonard	Ill.	Webb, Henry Gorham B.S. 1938, University of North Carolina	N.C.
Waters, Patricia May	Md.	Webb, Jack Bassett A.B. 1948, University of Kansas	Maine
Waters, Raymond Joseph B.S. 1931, Appalachian State Teachers College, North Carolina	N.Y.	Webb, Joseph Coates A.B. 1948, The George Washington University	D.C.
Wathen, Bernard D. A.B. 1904, Western Maryland University	D.C.	Webb, Innis McBryde	D.C.
Watkins, Cleveland Foster	Md.	Webb, Kenneth William	N.Y.
Watkins, Harold Stanley	Md.	Webb, Lois Neuhaus	D.C.
Watkins, James Edward	D.C.	Webb, Margarette WahnItabs	D.C.
Watkins, Peggie Jane	D.C.	Webb, Richard William A.B. 1947, The George Washington University	Conn.
Watkins, Phillip Louis B.S. 1940, University of Maryland	D.C.	Webb, Ruth A.B. 1934, A.M. 1936, The George Washington University	D.C.
Watkins, William Tatum	Fla.	Webber, James Everett	D.C.
Watson, Beulah Elizabeth L.L.B. 1947, The George Washington University	D.C.		
Watson, Charles Roger, Jr. A.B. 1938, Princeton University	N.J.		

Webber, Marjorie H. B.S. in Ed. 1942, Mary Washington College	Va.	Weingrad, Richard Herbert	N.Y.
Webber, Ruth Rebecca	Fla.	Weingrad, Shirley Hanna	N.Y.
Weber, David Joseph	D.C.	Weinman, Madelyn Gayle	D.C.
Weber, Edward Robert	Wis.	Weinshank, Herbert Seymour	N.Y.
B.S. 1940, Wisconsin State Teachers College, LaCrosse		Weinstein, Allen	D.C.
B.B.A. 1948, University of Wisconsin		Weinstein, Evelyn	
Weber, Harry	N.Y.	B.S. 1946, University of Maryland	Ohio
Weber, Paul	D.C.	Weinstein, Harriet F.	D.C.
B.S. 1947, The George Washington University		Weinstein, Harvey Harold	D.C.
Weber, Paul Jones	D.C.	Weinstein, Rebecca Ruth	
Weber, William John	D.C.	B.S. 1938, University of Illinois	
Webster, Ann Harrison	Va.	M.S. 1937, University of Southern California	
A.B. 1945, University of North Carolina		Ed.D. 1942, New York University	D.C.
Webster, Clark Gibbons	Md.	Weinstein, Robert Earl	D.C.
Webster, Edward	D.C.	Weinstein, Sherman	D.C.
B.S. 1942, University of Maryland		Weintraub, Leo	N.Y.
Webster, Frances Lee	D.C.	Weintraub, Leo Martin	D.C.
Webster, John Mark	D.C.	Weintraub, William Chodoff	D.C.
B.S. 1942, University of Minnesota		Weir, Colin Harden	Va.
LL.B. 1947, The George Washington University		Weir, Ellen Lunsford	D.C.
Webster, Lucile Hunter	W.Va.	Weir, John D.	D.C.
A.B. 1927, Wilson College		Weir, William Thomas, Jr.	Ohio
Webster, Nola Joyce	Kans.	Weirick, John Thomas	D.C.
Weddle, Rhea Verille	Va.	Weisbach, Louis H.	D.C.
Wedeen, Philip Zachary	N.Y.	Weise, Allen Gardner	Md.
Wedge, John William, Jr.	Nev.	B.S. 1948, The George Washington University	D.C.
Wedler, Arthur, Jr.	Ind.	Weise, Ernest Lyman	
Wedgeworth, May	Md.	B.S. 1938, The George Washington University	
A.B. 1928, The George Washington University		Weiser, Frank Robert	Va.
Weeder, Gilbert Louis	Md.	Weiss, Kenneth Floyd	Md.
Weekly, Glen Edwin	W.Va.	Weiss, Marjorie Louise	Va.
Weeks, Gladys Evelyn	D.C.	A.B. 1944, University of Michigan	D.C.
B.S. 1948, The George Washington University		Weiss, Marvin David	Pa.
Weeks, Harold Eugene	N.Y.	Weiss, Norman Redelin	D.C.
Weeks, John Dwight	D.C.	Weiss, Peter Josef	D.C.
Weeks, Mary Charlotte	Va.	Weiss, Samuel	D.C.
A.B. 1942, Madison College		Weiss, Sidney	
Wegrowicz, Irena Paulina	Poland	B.B.A. 1942, College of the City of New York	N.Y.
Wegznck, Chester George	D.C.	Weiss, William	
Wehrli, Arthur	Va.	A.B. 1948, The George Washington University	D.C.
Wei, Dorothy Edith	D.C.	Weissinger, Phyllis Bate	N.Y.
Weigand, Robert Joseph	N.Y.	Weissman, Milton	
Weigand, William Warren	D.C.	B.Ch.E. 1930, New York University	D.C.
Weigester, Nancy Jane	Calif.	Weissmann, Max Ludwig	Va.
A.B. 1945, University of California at Los Angeles		Weitzel, Elizabeth M.	Md.
Weigle, Stephen Albert	Va.	Weitzel, James Russell	D.C.
Weil, Elaine Phyllis	Va.	Weitzman, Mary Cohen	Conn.
A.B. 1946, University of Richmond		Welborn, Grover Eugene, Jr.	D.C.
Weiler, Harold Frederick	Va.	Welch, Arthur Stellhorn	Calif.
B.S. 1931, Randolph-Macon College		Welch, Clarence Frederick	N.Y.
Weimer, David Blair	Md.	Welch, Elizabeth Churchill	
Weimer, William Hilson	Pa.	A.B. 1945, The George Washington University	D.C.
Weinberger, Elias	N.Y.	Welch, George	D.C.
Weinberger, George	Va.	Welch, Mary Catherine	
Weiner, Alexander	Md.	A.B. 1947, Pennsylvania State College	Va.
Weiner, Eleanor	D.C.	Weld, Dorothy Anne	Ohio
Weiner, Wolford Harris	N.Y.	Weldy, Pauline	Calif.
A.B. 1940, University of Mississippi		Wellborn, Charles, Jr.	
LL.B. 1948, The George Washington University		B.S. 1920, United States Naval Academy	Md.
Weingarten, Hyman	N.Y.	Wellford, Mary Jean	
Weinger, Simon Jacob	D.C.	A.B. 1948, Randolph-Macon Women's College	Va.
A.B. 1948, The George Washington University		Wellinger, Pearl Brittingham	
		A.B. 1931, Western Maryland College	

Wellings, Albert Aloysius B.S. 1932, United States Naval Academy	Va.	West, Genevieve Lillian	N.Y.
M.S. 1942, Harvard University		West, George Bruce	Md.
Wellington, Benjamin	D.C.	West, George William	Md.
Wellington, Marion Webber	Va.	West, Glen Leroy	D.C.
A.B. 1931, Brown University		West, Jack Burlington	Ga.
Wellington, Peretz	Va.	West, James Peterson	Calif.
Wellman, Lloyd Carl	D.C.	West, Jessie Lee	N.C.
Wellman, Wayne Eugene	D.C.	B.S. 1942, Appalachian State Teachers College, N.C.	
Wells, Clinton Fisk, Jr.	Md.	West, Luther Charles	Ala.
B.S. 1948, University of Maryland		A.B. 1948, Birmingham-Southern College	
Wells, Edmund John, Jr.	D.C.	West, Marc Lee	D.C.
Wells, Ellwood C.	Ohio	B.S. 1940, The George Washington University	
Wells, Frank Hugh	Ind.	West, Marian Pickford	Va.
Wells, Frank Jefferson	D.C.	West, Ralph Alan	D.C.
Wells, Heydon Forbes	N.D.	West, Sally Frances	D.C.
B.S. 1938, United States Naval Academy		B.S. in Ed. 1939, Wilson Teachers College	
Wells, Morris William	Md.	West, William Paul	Va.
Wells, Rebecca Roe	Ky.	West, William Royster	Va.
Wells, Richard Glenn	Md.	Westbrook, Robert Joseph	N.Y.
Wells, William Stewart	D.C.	Westbrook, William Hughes	Pa.
Welch, Fletcher Harvey	D.C.	Westcott, George Godfrey	N.Y.
Welsh, James Joseph	Pa.	Westcott, Raymond Arthur	Minn.
B.S. 1948, Mount St. Mary's College		Westermann, Harland Walter	D.C.
Welsh, James William	Tex.	Westerveld, Louis David	Va.
Welsh, John Albert	D.C.	Westervelt, Frederic Ballard, Jr.	Va.
Welsh, Mary Kathleen	Va.	Westfall, Ted B.	Tex.
Welsh, Thomas William, Jr.	Md.	B.S. 1940, University of Oklahoma	
Welty, Ruth Agnew	Va.	Westmore, Robert Norman, Jr.	D.C.
Welty, Ruth E.	D.C.	Westmoreland, William Jewell	D.C.
Welz, Walter Wilfred, Jr.	Pa.	Weston, Glen Earl	Md.
Wendell, Elizabeth Mary	Pa.	B.S. 1943, University of Maryland	
Wendling, Andre Georges	Md.	Wetherbee, Fairland Henry	Md.
Wendt, Waldemar Frederick	Va.	Wetmore, William Furches, Jr.	Va.
B.S. 1911, United States Naval Academy		Weyrauch, Joseph Alexander	Va.
Wendt, Carl Morton	Iowa	Whaley, Mary Virginia	W Va.
A.B. 1947, A.M. 1959, University of South Dakota		Wharry, Llewellyn Russell	Ill.
Wendt, Lucile Bard	S.D.	Wheatley, LeRoy Herbert	Md.
A.B. 1942, University of South Dakota		B.S. 1940, Johns Hopkins University	
Wenner, Edward George	D.C.	Wheaton, Richard Murray	Iowa
Wenner, William Fred	D.C.	Wheeler, Alice Livingston	Va.
Wenner, Evelyn Wingate	Md.	Wheeler, Arthur Adrian	Mass.
Wensel, Henry Theodore, Jr.	Md.	Wheeler, Edna Boly	D.C.
A.B. 1947, St. John's College		A.B. 1928, Occidental College	
Wensel, Louise Oftedal	Md.	Wheeler, Frank Knowles Blasdell	Minn.
A.B. 1959, Wellesley College		B.S. 1935, United States Naval Academy	
Wentz, Jane	D.C.	Wheeler, Fred William	Ohio
Werbow, Farrell Roy	D.C.	Wheeler, Mary Robb	D.C.
Wermiel, Ruth Glass	Va.	A.B. 1938, University of Kansas	
Werner, Frederick Lloyd	D.C.	Wheeler, Mary Starr	Conn.
Werner, Monroe Mark	N.Y.	A.B. 1916, Wellesley College	
A.B. 1938, Brooklyn College		Wheeler, Richard Paul	Md.
Werst, Harold J.	Ariz.	Wheeler, Violette Niederhauser	D.C.
Wert, Thomas Frederick, Jr.	D.C.	Wheelock, John Topping	Ill.
Wertbruch, Mary Claire	D.C.	A.B. 1948, Princeton University	
Wertheim, David Seymour	N.Y.	Whelton, Joseph Maurice	Va.
Wertheimer, Dona Barbara	D.C.	A.B. 1937, M.S. 1939, Boston University	
Werts, Herbert Aubrey	Wis.	Wherry, David Colwell	Nebr.
B.S. 1948, University of Wisconsin		Whetzel, Gayle B.	D.C.
Wertz, Theodore Howard	D.C.	Whisenand, Benjamin Murray	Md.
Wesley, Harold Burton	D.C.	Whistler, Robert Gerald	Ark.
Wessel, Robert Glenn	Ill.	Whitacre, Bruce Edward	Md.
West, Alberta Anne	Pa.	Whitaker, Edward Stephen	Va.
West, Alexander Lockhart	Ark.	A.B. 1942, King College	
West, Alice Amanda	Va.	Whitaker, John Carroll	Md.
A.B. 1948, University of Arizona			

Whitbeck, James A. B.B.A. 1938, University of Minnesota	Va.	Whitmore, Mary Ursula B.S. in Ed. 1935, State Teachers College, Salem, Mass.	Mass.
Whitcomb, Jack Bispham	D.C.	Whitmore, Sidney Roxton	Va.
White, Albert Carlton	N.Y.	Whitnack, John Doyle	Calif.
White, Alfred Lawson	D.C.	Whitney, Carlton Edward	D.C.
White, Bernard Samuel A.B. 1938, University of Nebraska LL.B. 1940, Creighton University LL.M. 1945, The George Washington University	Nebr.	Whitney, George Ward B.E.E. 1949, Rensselaer Polytechnic Institute	N.Y.
White, Carol Humes	Va.	Whitney, Joseph Roland B.S. 1945, University of Minnesota	Mich.
White, Catherine Brown	N.Y.	Whitt, Gordon Alfred	D.C.
White, Clara Belle	Tex.	Whittemore, William Kittredge	D.C.
White, Dorsey Marvin, Jr.	D.C.	Whitten, Grace L.	Calif.
White, Elwood Brooks	Va.	Whittenburg, John Vernon B.S. in Ch.E. 1948, Rice Institute	Tex.
White, George Amick	Va.	Whittington, James Gordon, Jr.	N.C.
White, Graham Edward	D.C.	Whittington, Mary L.	Wyo.
White, Horace Walter	Calif.	Whittle, Ransom Alban	Va.
White, Irvin Albert	Nebr.	Whitwell, Sanford MacCallum B.S. 1944, Cornell University	Pa.
White, Joseph Hill A.B. 1948, American University	Va.	Whitworth, Lewis Beaman	Md.
White, Kenneth Allen	D.C.	Whyte, Rosalie Ann A.B. 1946, The George Washington University	D.C.
White, Kenneth Woodward	D.C.	Wicke, Philip Jacob	Ohio
White, Marian Virginia	Va.	Wicker, Whiting	Vi.
White, Mary Louise	D.C.	Wicks, E. Page	Va.
White, Minnie S.	Va.	Wickline, Harry F.	Mo.
White, Robert Bellarmine	D.C.	Wicks, Thomas Andrew	D.C.
White, Robert Lynn B.S. 1947, Marietta College	W.Va.	Widdicombe, Richard Weaver	N.J.
White, Ruth Baskin	Nebr.	Widman, Charles Louis	D.C.
White, Sylvia Anne A.B. 1943, University of Pennsylvania	D.C.	Widman, Joseph William	D.C.
A.B. 1944, Pomona College		Widman, Richard Donald	D.C.
A.M. 1942, Claremont College		Widmayer, Clara Louise	W.Va.
White, Thomas Arthur	Va.	Widmyer, W. Ralph	
White, Ware Wolfe	N.C.	A.B. 1919, Shepherd College	Va.
White, William Melone	Ohio	Wiedora, Paul Hollister B.S. 1922, United States Naval Academy	W.Va.
B.S. 1941, The George Washington University		Wiefelspuetz, Edwin Alfred	Ill.
White, Willis Graham	N.Y.	Wiener, Harvey	Tex.
Whitefield, Mary Virginia	D.C.	Wier, Richard Austin B.B.A. 1943, Texas Christian University	N.J.
Whitehair, George W. A.B. 1930, West Virginia University	W.Va.	Wieroniew, Paul Martin	D.C.
Whitehead, June Marie	D.C.	Wiesman, Benjamin	Va.
Whitehead, Mildred May	D.C.	Wiggins, John Dewey A.B. 1937, Washington and Lee University	D.C.
Whitehead, Roger Donald	Calif.	Wiggins, John Russell	Ohio
Whitehouse, William Ambrose, Jr.	Ky.	Wiggins, Lloyd George	D.C.
Whitely, John Epes	Ala.	Wiggins, Patricia Ann	Pa.
Whiteman, Sally Seidelman	D.C.	Wiggins, Thomas Arthur B.S. 1942, Pennsylvania State College	N.C.
Whitener, Thomas Grady	Md.	Wiggs, Deems Norwood	Va.
Whitesel, James Warren B.S. 1943, Wake Forest College J.D. 1948, The George Washington University	D.C.	Wight, Arianna Randolph	N.Y.
Whitesel, Roy Thornton	D.C.	Wigren, Lloyd Ethan A.B. 1930, Columbia University	Pa.
Whiting, Anne Belinda	W.Va.	Wilamowski, Edward Joseph B.S. 1946, The George Washington University	Mass.
Whiting, Louise Tiffany	Tex.	Wilansky, Donald Mark	Md.
Whitley, Clyde Efrid	D.C.	Wilbur, Glenmore A A.B. 1937, University of Washington	Va.
Whitley, Diana Constance	D.C.	Wilburn, Fred Thomas, Jr.	D.C.
Whitley, Dorothy Main	Kans.	Wilburn, James L.	D.C.
Whitlock, Duane Lewis	Iowa	Wilburt, George Arthur	D.C.
Whitlock, Elmer William	Va.	Wilcox, Carolyn Sylvia A.B. 1941, Rockford College	
Whitman, Gretta Rae	D.C.		
Whitman, Jack	Pa.		
Whitmer, Jacqueline Wynwood	Va.		
Whitmore, Charles Warren	Va.		
Whitmore, Daniel Norman	Nev.		
Whitmore, James O'Neill	D.C.		
Whitmore, Jane Frances	Md.		

Wilcox, Jessie Elma	Va.	Williams, Earl, Jr.	Ill.
Wilcox, N. Elane	Md.	Williams, Edith Louise	Va.
B.S. 1942, Hastings College		A.B. 1947, The George Washington University	
Wilcox, Robert Lynn	D.C.	A.M. 1948, Radcliffe College	D.C.
Wilcox, Vivian Allison	Md.	Williams, Elma	Md.
Wild, Paul Joseph	Iowa	Williams, Elmer Morton	Va.
A.B. 1938, Drake University		Williams, Emma Loleta	D.C.
Wildemann, Sheila Margaret	W.Va.	Williams, Elwynne Mary	D.C.
Wildman, Janet	D.C.	A.B. 1933, University of Wales	D.C.
Wildman, Theodore John	Colo.	Williams, Fletcher Price, Jr.	D.C.
Wiles, Jo Anne	Mich.	Williams, Frank Evans	D.C.
Wiles, William Edward	D.C.	Williams, George Woods	D.C.
A.B. 1938, Brooklyn College		A.B. 1941, Kalamazoo College	Iowa
Wiley, Earl Brooks	Ga.	Williams, Gerald Albert	
Wiley, Lynwood Latane	Va.	B.S. 1945, South Dakota State College	Pa.
Wilhelm, Harry Wesley	D.C.	Williams, Harry Edgar	
Wilhelm, Fred Donald	D.C.	B.S. in Ed. 1930, State Teachers College, Indiana, Pa.	D.C.
B.S. in E.E. 1947, Stanford University		Williams, Janice Ruth	N.D.
Wilkinson, John Krantz, Jr.	Md.	Williams, John Charles	Wis.
Wilkinson, Turner Lee, Jr.	Va.	Williams, John Marshall	
Wilkins, Don Frank	Vt.	B.S. in Ed. 1936, East Central State College	D.C.
Wilkins, Elizabeth Ann	D.C.	Williams, John McRoy	Va.
Wilkins, Floyd, Jr.	Calif.	Williams, John Powell	
B.S. 1946, University of California		B.S. 1946, Virginia Polytechnic Institute	N.Y.
Wilkinson, John Kenneth	D.C.	Williams, Kenneth Richard	Md.
Wilkinson, Mary Bishop	D.C.	Williams, Lawrence Edwin, Jr.	
Wilkinson, Richard Bruce	Md.	B.S. 1944, United States Naval Academy	Pa.
B.S. 1937, Newark College of Engineering		Williams, Leonard	Md.
Wilkinson, Richard Sterling	Va.	Williams, Leonard John	Md.
Will, Oscar Vernon	Md.	Williams, Lowell Winfield	N.C.
Willard, Marjorie Avery	Va.	Williams, Lucy Jeanette	Va.
B.S. 1944, Madison College		Williams, Luroff H.	D.C.
Willard, Walter Gordon	D.C.	Williams, Margaret Goodwin	
Willard, William Creighton	D.C.	A.B. 1931, Wellesley College	Md.
Willenbacher, Dorothy Elizabeth	Md.	Williams, Marjorie Louise	Tenn.
A.B. 1946, Swarthmore College		Williams, Marvin Edward	Va.
Willens, Joseph	N.Y.	Williams, Mary Myrtle	D.C.
Willert, Edwin Dexter	Hawaii	Williams, Michele	
Willert, John Raymond	Maine	B.S. 1948, The George Washington University	D.C.
A.B. 1948, The George Washington University		Williams, Nancy Ann	D.C.
Willert, Lawrence Edgar	D.C.	Williams, Owen Wingate	D.C.
B.S. in Ed. 1945, University of Missouri		A.B. 1948, Kalamazoo College	D.C.
A.M. in Ed. 1948, The George Washington University		Williams, Patricia	D.C.
Willert, Marie Louise	D.C.	Williams, Patrick Joseph	D.C.
Williver, Aileen Janet	N.J.	Williams, Polly Teed	Va.
A.B. 1946, New Jersey State Teachers College		Williams, Richard Guy	Md.
Willie, Douglas Jerome	D.C.	A.B. 1944, Yale University	
Williams, Albert Keith	Md.	Williams, Robert Reynolds	
Williams, Angela Mahala	D.C.	A.B. 1935, Brown University	
A.B. 1921, A.M. 1931, Indiana University		M.D. 1940, Columbia University	Va.
Williams, Allen George, Jr.	D.C.	Williams, Stanton Monroe	W.Va.
Williams, Ayward Cecil	Okl.	Williams, Thomas Alfred	
Williams, Beverly Ann	D.C.	A.B. 1948, West Virginia University	Md.
Williams, Bruce Harold	Tex.	Williams, Thomas Richardson	Ky.
B.S. 1934, Southwest Texas State Teachers College		Williams, Victor Francis	Md.
M.S. in Ed. 1938, University of Texas		Williams, Virgil Henry, Jr.	Calif.
Williams, Clement	Calif.	Williams, Virginia Louise	
Williams, Constance Elizabeth	N.J.	A.B. 1941, Western College	Calif.
Williams, Drura Mac	Tenn.	Williams, Wilfred Stanton	
B.S. 1933, A.M. 1936, George Peabody College for Teachers		B.S. 1937, University of Southern California	D.C.
		Williams, Willard	Mich.
		Williams, William Barron	D.C.
		Williams, William Sterne	
		A.B. 1935, University of Utah	Va.
		Williamson, Daniel Lester, Jr.	

Williamson, John George	Tenn.	Wilson, Philip Harold	Ill.
A.B. 1948, The George Washington University		B.S. in Ed. 1940, Illinois State Normal University	D.C.
Williamson, Robert Burna	Tex.	Wilson, Raymond Boyd	D.C.
A.B. 1947, University of Texas		Wilson, Simon Newcomb	
Williamson, Robert Ernest	D.C.	A.B. 1939, Antioch College	Ill.
Willier, Lillian E.	D.C.	A.M. 1940, Fletcher School of Law	D.C.
Willingham, John Martin	D.C.	Wilson, Thomas Edwin	D.C.
Willis, Dorothy Catherine	D.C.	Wilson, Vera Hooker	Ill.
Willis, Grace Beverly	Canada	Wilson, Vernon Claude	D.C.
Willis, Harry Everett	Iowa	Wilson, Virginia	Ill.
Willis, James Darwin	Va.	A.B. 1947, Grinnell College	Va.
Willis, John William	Va.	Wilson, William Clayton	Wyo.
A.B. 1934, University of California at Los Angeles		A.B. 1946, Allegheny College	Maine
LL.B. 1937, University of Southern California		Wilton, Frances William	Ala.
Willkie, Joseph Brian	Va.	Wimberley, Claire Baker	
Willman, Donald Erzinger	Va.	A.B. 1944, University of Alabama	Va.
Wills, Albert Michael	Mass.	Wimbrow, Charles Franklin	N.C.
Wills, Frank Eugene	D.C.	Winborne, Sidney Allen	Okla.
Wills, Walter Cruise	D.C.	Winchell, Ralph Ellis	Iowa
Wilson, John Tucker	Colo.	Winders, Mildred Etta	D.C.
B.S. 1948, The George Washington University		Windham, Ruby Nell	N.Y.
Willson, Robert Crompton	N.Y.	Windheim, Sandoe	N.D.
Wilnot, William Francis	Conn.	Windingland, Einar	
Wilson, Bethel Elaine	Ind.	A.B. 1940, North Dakota State Teachers College	Miss.
B.S. in Ed. 1931, Indiana University		Windkur, Sophia Anita	Va.
Wilson, Betty Louise	Md.	Windsor, Noel Franklin	Maine
Wilson, Bobby Lloyd	Tex.	Wine, Sarah	
Wilson, Byron Kent	Ark.	A.B. 1945, The George Washington University	Pa.
A.B. 1946, Arkansas State Teachers College		Wineberg, John Walter	D.C.
Wilson, Charles Edward	Va.	Wineland, Robert Kenneth	
Wilson, Charles LeRoy, Jr.	W.Va.	A.B. 1947, The George Washington University	Ont.
A.B. 1948, Davis and Elkins College		Winer, Ben James	
Wilson, Chris	D.C.	B.S. 1939, M.S. 1941, University of Oregon	Va.
A.B. 1933, M.S. in Ed. 1940, University of Cincinnati		Winfield, Richard Buckner	
Wilson, Elizabeth Prosser	N.C.	B.S. 1935, United States Naval Academy	D.C.
A.B. 1943, Greensboro College		Wing, Mary Ellan	
Wilson, Ernest Woodrow	Va.	A.B. 1948, University of Michigan	Maine
Wilson, Frank Gavin	D.C.	Wing, Robert Claude	
Wilson, George Allison	Iowa	B.S. 1935, United States Naval Academy	
Wilson, George West	Pa.	M.B.A. 1939, Harvard University	D.C.
Wilson, Gerald Denver	Va.	Wingate, Florence	Ark.
Wilson, Grace Cunard	Miss.	Wingfield, Lester Ray	
Wilson, Harold Jackson	Va.	Ph.B. 1923, University of Chicago	Va.
Wilson, Harold Maurice	Ind.	Wingo, Lydia Hilldrup	
A.B., A.M. 1948, The George Washington University		B.S. 1943, Mary Washington College	Va.
Wilson, Howard Eugene	Mont.	Wingo, Richard Brown	Ill.
Wilson, James Frederick	D.C.	Winkelman, Richard Henry	D.C.
Wilson, James Howie	D.C.	B.S. 1937, Southampton College	W.Va.
Wilson, Jesse Lee	Mo.	Winkler, Joseph Fred	N.J.
Wilson, John Lewis	D.C.	Winkler, Russell Marion	
Wilson, John Robert	Va.	Winslow, Hamilton	
Wilson, John Samuel	N.Y.	A.B. 1948, Columbia University	Maine
A.B. 1936, LL.B. 1939 Fordham University		Winslow, Lawrence Alden	D.C.
Wilson, Josephine Coleman	Va.	Winston, Anthony	Pa.
Wilson, Joyce Marguerite	Ill.	Winston, Thomas Harry	N.Y.
Wilson, Julia Wales	Tenn.	Winter, Frank Ephraim	Kans.
A.B. 1929, Tusculum College		B.S. 1943, University of Pittsburgh	
Wilson, Littrell Edward	Md.	Winter, Jane	
Wilson, Louis	N.Y.	A.B. 1947, Washburn Municipal University	Okla.
Wilson, Mary Alice	Nebr.	Winter, Lewis Jasper	Md.
B.S. 1939, University of Nebraska		Winter, Philip Hayward	
Wilson, Noel Charles	Calif.	B.S. 1938, Wilson Teachers College	Pa.
Wilson, Orma, Jr.	D.C.	Winter, Robert Edward	N.Y.
B.S. 1942, Harvard University		Winters, Wallace Dudley	
Wilson, Paul Randolph	D.C.		

Wireman, Sara Jo Aan	Va.	Wolfenson, Jay Warren	D.C.
Wirth, John Alvin	Va.	A.B. 1948, The George Washington University	
Wise, Elaine	D.C.	Wolff, Catherine Jean	N.J.
B.S. 1948, William and Mary College		Wolff, Gerald Spaulding	Utah
Wise, Robert Arthur	Pa.	Wolff, Louis	Va.
Wise, William Arthur	D.C.	Wolffe, Lenard	Va.
Wiseman, Ben Warren	W.Va.	A.B. 1948, The George Washington University	
A.B. 1948, West Virginia University		Wolford, Neil Edmondson	Va.
Wismer, Carl Edward, Jr.	Va.	Wolfsohn, Harold Barnet	Va.
Wisner, Ralph Merrill	Ill.	Wolfsen, Eileen Bishins	Md.
Wisner, Albert DeVola	Md.	Wolfsen, Reuben	N.Y.
Wisner, Jackson Ward, Jr.	Md.	Wolfsen, Ruth	N.Y.
Wissler, John George	Minn.	A.B. 1937, Hunter College	
B.S. in C.E. 1943, Marquette University		Wolin, Edward	D.C.
Witcover, Henry Wallace	Calif.	Wolk, Morris O.	Md.
A.B. 1937, Duke University		B.S. in Ch.E. 1936, Cooper Union	
Witham, Robert Carey	Md.	Wolk, Reuben	Calif.
Withers, John Lewis	N.C.	B.S. 1938, University of Maryland	
B.S. 1940, Davidson College		Wolkeau, Jacob Alfred	Pa.
A.M. 1941, University of North Carolina		A.B. 1942, University of Pennsylvania	
Witherspoon, Fred Lee, Jr.	Md.	Wollesen, David Leonard	D.C.
B.S. in M.E. 1941, University of Maryland		Wollin, Harold Frank	D.C.
Witkin, Eugene	N.Y.	Wolman, Harold	N.Y.
Witowski, Stan S.	D.C.	B.S. 1942, College of the City of New York	
Witkowski, Walter Phillip	Mass.	Wolman, Pearl	D.C.
Witold, Lenore	D.C.	Wolman, Sidney Stanley	D.C.
Witt, Aubrey Calvin	Okla.	Wolpoff, Stanley Gilbert	D.C.
Witt, Betty Jo	Pa.	Wolter, Elisabeth B.	D.C.
Witten, Sarah Caroline	Va.	Wolverton, Walter Hunter	Conn.
Witters, Donald Myron	D.C.	Wolz, Charles Thompson	D.C.
Wittmus, Ronald Gordon	Va.	B.S. in M.E. 1947, Virginia Polytechnic Institute	
Wnek, George	Wis.	Womack, Herman Lynn	D.C.
Wodinsky, Isidore	Md.	Wong, Fen Kwok	N.Y.
A.B. 1939, Brooklyn College		Wong, Hsin Ping	D.C.
Woehlke, Arnold Benjamin	Mo.	Wong, James Aubrey	D.C.
B.S. in Ed. 1940, Southeast Missouri Teachers College		Wong, Ting Hsien	D.C.
Wofford, Clarence Arnold	Okla.	Wong, Wing	N.H.
Wofford, William Tatum	Tex.	Wood, Charles William	Pa.
B.S. in E.E. 1942, Texas College of Arts and Industries		Wood, Claire Mae	D.C.
Wohl, Paul	N.Y.	Wood, Cora B.	D.C.
Woidick, Frances DeSales	D.C.	Wood, Edwin Charles	D.C.
B.S. 1945, Harvard University		Wood, Ethel Martin	Tex.
Woidke, John Oliver	Va.	A.B. 1926, University of Texas	
Wojtkowiak, Raymond Alfred	N.Y.	Wood, Everett Eugene	Va.
Wolcott, George Milton, Jr.	D.C.	B.S. 1939, North Central College	
Wold, Henry Edward	D.C.	Wood, Gloria Murray	Md.
Wol, Don Edwards	W.Va.	Wood, Harry Eugene	S.C.
A.B. 1943, Bethany College		Wood, Harvey Earl	D.C.
Wolf, Frank George	Md.	Wood, Jack Guy	D.C.
Wolf, Gustave William	N.J.	Wood, James Nathan	Va.
Wolf, Joseph Jay	D.C.	A.B. 1935, DePauw University	
Wolf, Lucy Jane	D.C.	LL.B. 1938, Indiana University	
A.B. 1947, University of Texas		LL.M. 1942, The George Washington University	
Wolf, Mary Jean	Okla.	Wood, John Fred	N.C.
Wolf, Otto William	Ohio	Wood, Julia Burton	D.C.
Wolf, William Edward	D.C.	Wood, Lloyd Fuller	Va.
Wolf, William Emmert, Jr.	Calif.	Wood, Lucy Alice	Wis.
Wolfe, Carlton Huntington	D.C.	Wood, Robert Andrew	D.C.
Wolfe, Allen Lee	Mo.	Wood, Robert Eugene	D.C.
B.S. Charles Randolph	Va.	Wood, Robert Lukens, Jr.	Va.
B.S. 1943, University of Maryland		Wood, Robert Stephen	D.C.
Wolfe, Eugene Noel	W.Va.	Wood, Stella Draper	Ind.
Wolfe, Harvey Everett	N.Y.	Wood, Walter, Henderson	D.C.
Wolfe, Joe Patrick	Md.	Wood, Willis John	D.C.
A.B. 1943, Hillsdale College		Woodall, Diana Dorothy	Va.
Wolfe, Margaret Mary	D.C.	Woodard, Douglas Dutton	Ill.
A.B. 1941, St. Joseph's College for Women		A.B. 1948, Brigham Young University	
		Woodard, Frank Jones	Md.

Woodard, Geoffrey Dean Leroy B.S. 1939, The George Washington University	Va.	Worley, Richard Bryce Wormald, Marion Frances B.S. 1948, Virginia Polytechnic Institute	Okl. Va.
Woodard, Joseph Harold	Va.	Worns, John James B.S. 1937, University of Wisconsin	D.C.
Woodbridge, Reba Mary B.S. 1941, Farmville State Teachers College	Va.	Worthington, Phyllis Lee A.B. 1948, The George Washington University	Md.
Woodburn, Charles Stephen	Pa.	Wortman, David Morris A.B. 1948, The George Washington University	D.C.
Woodbury, Wallace Richards A.B. 1947, University of Utah	Utah	Wostein, Benjamin A.B. 1948, The George Washington University	D.C.
Woodcock, Wilford Lee	Va.	Wower, George E.	D.C.
Wooddell, George Preston	Fla.	Wray, James Lahan	Ark.
Wooden, Donald Gminder	Md.	Wren, Donald George	Mo.
Woodhouse, Margaret Wark A.B. 1946, University of North Carolina	Conn.	Wrenn, Ernest Bernard, Jr.	D.C.
Woodhull, John Hawley B.S. in E.E. 1943, Tufts College	N.Y.	Wright, Archie Taylor, Jr. B.S. 1933, United States Naval Academy	Tex.
Woodling, Francis Albert	Pa.	Wright, Berkeley	D.C.
Woodman, Philip Colby	N.Y.	Wright, Carney Willis	D.C.
Woodmansee, Charles H.	Md.	Wright, Dalton Houston	D.C.
Woods, Carroll Henry A.B. 1945, Dartmouth College	Mass.	Wright, Dorothy Jane A.B. 1947, The George Washington University	Ill.
Woods, Gayle B.S. in C.E. 1948, Oregon State College	Idaho	Wright, Isabelle Marie	D.C.
Woods, Glenneth Margaret	Colo.	Wright, Jeanne Elizabeth A.B. 1941, Smith College	N.Y.
Woods, Harlan LeRoy	D.C.	Wright, Martha Gertrude B.S. 1945, New York University	Ohio
Woods, Mary Gordon A.B. 1944, University of Illinois	D.C.	Wright, Melton Fisher A.B. 1945, Bob Jones University	Va.
Woods, Robert Ora	Calif.	Wright, Patricia Jean	S.D.
Woods, Russell Marshall LL.B. 1948, The George Washington University	Va.	Wright, Pauline	D.C.
Woods, Virginia May	Ohio	Wright, Walter John	Md.
Woodson, Joseph Bernd B.S. 1944, Swarthmore College	D.C.	Wright, Willard Alden	Pa.
Woodward, Charles Byron	Va.	Wright, William Wilson B.S. in Ed. 1941, University of Virginia	Va.
Woodward, John Richard	Va.	Wrobel, Joseph Norman	N.Y.
Woodward, Kenneth Emerson	D.C.	Wrobllicka, William	D.C.
Woodward, LaMar Lee	N.H.	Wrong, Elizabeth June A.B. 1947, University of Toronto	D.C.
Woodward, Lawrence Godfrey A.B. 1948, The George Washington University	Va.	Wroth, Ralph Lane A.B. 1947, Kenyon College	Pa.
Woodward, Mary Eleanor	D.C.	Wu, Hui Chen A.B. 1943, National Tsing-Hua University, Peiping, China	D.C.
Woodward, Nancy Hanck A.B. 1945, The George Washington University	D.C.	Wu, William	China
Woodward, Thomas Plunkett B.S. 1941, The George Washington University	D.C.	Wulf, James Theodore	Calif.
Woodwell, Jessie Alden A.B. 1945, Middlebury College	Md.	Wulf, Pearl Elizabeth	Va.
Wollard, Raymond Morgan	Va.	Wulf, Walter Gilbert A.B. 1947, A.M. 1948, University of Michigan	N.Y.
Woolbridge, William Abbit	Va.	Wonder, Newton Andrew	D.C.
Woolley, Edwin Richard	Md.	Wurz, Nelson Hugh	Ind.
Woolley, Ruth Conant	D.C.	Wurzer, Rose Agnes	D.C.
Woolis, Elizabeth Burns B.S. 1947, St. Joseph's College for Women	Va.	Wyche, Benjamin Walker III B.S. 1943, Virginia Polytechnic Institute	Va.
Woolis, William Pape, Jr.	Va.	Wyche, Richard Thomas A.B. 1918, University of Oklahoma	Okl.
Wooten, Claude L. A.B. 1942, Sam Houston State Teachers College	Tex.	Wyckoff, Donald Latham	N.Y.
Wootten, Charlotte Frazier A.B. 1918, Arkansas State College	Ark.	Wyeth, George Austin, Jr. A.B. 1917, Yale University	D.C.
Wooters, William Richard	Md.	Wygod, Catherine	Md.
Worden, Dwight Geer	N.Y.	Wylde, Ronald James A.B. 1942, Washington University	Pa.
Worden, Eloise Trott A.B. 1939, University of Florida	Fla.	Wyman, Carl Otis	Mass.
Workinger, George Samuel	Md.	Wyman, Charles Malcolm	

Wymbs, Roy Paul B.S. 1942, University of Richmond	Va.	Yocum, Howard Adam A.B. 1948, Allegheny College	Pa.
Wymore, Max Lee B.S. 1947, University of Kansas	Kans.	Yohn, Edna Mae A.B. 1935, Juniata College	Pa.
Wynkoop, Jeanne Simonds Wynn, Harvey Nickles	D.C.	Yoho, Bill Lee	Md.
Wynne, Dorothy Rosabel	D.C.	Yolles, Dorothy	N.Y.
Wyper, James, Jr. A.B. 1940, Princeton University	Md.	York, Edgar Duane	Md.
	Md.	York, Emil Conrad	D.C.
		York, Jack	Ill.
		York, Lawrence Robert	D.C.
		York, Ody Des	Tex.
		York, Robert Lamar	D.C.
		York, Warren Monroe, Jr.	D.C.
		Yost, Charles Francis B.S. 1947, The George Washington University	D.C.
		Yost, William Adams	D.C.
		Youmans, James R.	Va.
		Younes, William Gabriel	D.C.
		Young, Catherine Marie	Calif.
		Young, Charles Edward	Pa.
		Young, Craig Albertus	W.Va.
		Young, Donald Earl A.B. 1948, The George Washington University	Pa.
		Young, Dorothy Pond	Ohio
		Young, Edward Everett, Jr.	D.C.
		Young, George Ellis	Ohio
		Young, George Wesley	Md.
		Young, Ina Marie	D.C.
		Young, Jack Martin B.S. 1943, Case Institute of Technology	Ohio
		Young, Jack Roland	Ill.
		Young, James Rowland	D.C.
		Young, Jeanne Aglet Loring	D.C.
		Young, John Henry	D.C.
		Young, Josephine Black	D.C.
		Young, Mary Catherine	Va.
		Young, Maynard Fling	W.Va.
		Young, Norma Elizabeth	D.C.
		Young, Olive Emily A.B. 1929, A.M. 1930, University of Rochester	N.Y.
		Young, Regina M. B.S. 1930, Ohio State University	Ohio
		A.M. 1945, The George Washington University	
		Young, Robert	D.C.
		A.B. 1948, The George Washington University	
		Young, Robert Stanley	Va.
		Young, Sage	China
		Young, Virginia Gwathmey A.B. 1947, The George Washington University	Va.
		Younger, Edward Francis, Jr.	Md.
		Younger, William Edward A.B. 1948, University of Chattanooga	Tenn.
		Youngman, Shirley Louise	Md.
		Youngman, Wilbur Hughes, Jr.	Calif.
		Yunker, Laura	D.C.
		Yount, Dean Burdette B.S. 1933, Oklahoma Agricultural and Mechanical College	Okl.
		Yount, Joseph Herman, Jr. A.B. 1948, Oberlin College	Ohio
		Yowell, Earl Reddish	Va.
		Yowell, Frankie Anne	Md.
		Yudkin, Samuel	Conn.
		Yudkoff, Herman	N.J.
		Yudkowsky, Betty Harriet	D.C.
		Yuan, Joseph Ying	D.C.

Yuill, Charles Walter, Jr.
 Young Kwan, Anne
 B.S. 1946, University of Michigan
 Yuricek, Joseph
 Yurman, Alvin Irving
 Yurwitz, Julius Peter
 B.S. 1939, The George Washington
 University

Z

Zabiegalski, Anthony, Jr.
 A.B. 1949, Wilkes College
 Zachary, Richard Eugene
 Zahner, Syed Kazim
 B.S. 1948, Northwestern University
 Zaid, Charles
 A.B. 1933, Temple University
 Zakarian, Aram
 Zakrzewska, Barbara
 Zalucki, Laura Florence
 Zamansky, Eleanor Belle
 Zamora, Elsa Saenz
 Zampell, Roger John
 B.S. 1932, Massachusetts Institute of
 Technology
 Zanelli, Alfred
 Zangrilli, Joseph
 Zanner, Albert William
 Zanner, Carl W.
 Zatorski, Candido Peter
 Zapoleco, Gene Seba
 Zaroff, William Joseph
 Zavada, Arthur Stephen
 Zasada, Richard Conrad
 Zaskalicky, Julius John
 B.E.E. 1942, Yale University
 Zatz, Dorothy
 Zavacky, Mary Theresa
 Zayas, Edison Vladimiro
 Zbree, Wanda Antoinette
 A.B. 1936, Bethany College
 Zeh, Billy Reid
 Zeldner, Philip M.
 Ziegler, Joanna Elizabeth
 Zelaska, Ralph Rudolph
 B.S. 1940, The George Washington
 University
 Zelinski, John Ward
 Zerkovitz, Sam
 Zembruski, Bruno John
 Zeno, Luis Antonio
 A.B. 1945, University of Puerto
 Rico
 Zeno, Luz Violeta
 Zens, Robert Wilhenry
 Zentgraf, Edward August
 B.S. 1937, New York University
 Zerbec, Jean Moure
 A.B. 1947, St. Mary of the Springs

D.C.

D.C.

Pa.

N.Y.

D.C.

Pa.

D.C.

D.C.

Pa.

D.C.

Md.

Mass.

D.C.

D.C.

Va.

N.Y.

N.Y.

D.C.

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Minn.

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Conn.

D.C.

Pa.

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Pa.

Va.

D.C.

D.C.

Va.

Ariz.

Va.

Va.

Puerto Rico

Puerto Rico

D.C.

Md.

D.C.

Zervakov, Straty

Zeydel, Jeanne Randolph

Zichterman, Harry William

Zidel, Eve

Zick, Harry Eugene

Ziegler, Herman Joseph

Ziegler, Levern Landis

Ziegler, Norman Gene

Ziehl, Roland Charles

Ziehl, Wilbur Henry

Ziff, Richard Newton

Zigmond, Faye

Zilch, Helen Josephine

Zimmer, Arthur Robert

Zimmer, Culver Frain

Zimmer, David Joseph

Zimmer, Patricia Ann

Zimmerman, Harry Chalfant

Zimmerman, Maud-Ellen

A.B. 1937, Goucher College

Zimmerman, William III

Zimmermann, Catharine Cecilia

Zinn, Frank B.

Zinn, Myron Bernard

Ziobro, Stanley Robert

B.S. 1942, The George Washington

University

Zipin, Pearl

Zipser, Paul Cornelius

A.B. 1947, The George Washington

University

Zitani, Alfred Marius

Zitomer, Joseph

Zlotnick, Jack

Zoll, Nathan Hyman

Zolysak, John

Zorn, Otto Godfrey

Zorzy, John

Zubeck, John Thomas

Zuck, Joshua

Zucker, Harold Scheff

Zucker, Isidore

Zucker, Morton David

Zuckerman, Martin Jay

Zuesse, Marin Lewis

Zugby, Emile

Zugel, Francis Kopp

Zugel, Mary Jean Edna

Zuhl, Tiberiu Theodore

Zulieve, Adele Esther

Zuniga, Maria

Zuniga, Stella E.

Zusad, Bruno Hyacinth

Zurcher, Clarence James

B.S. 1940, University of Oregon

Zweibel, Sidney A.

Zysk, John Joseph

Md.

D.C.

D.C.

D.C.

D.C.

N.J.

Pa.

D.C.

Wn.

Md.

Conn.

D.C.

Md.

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D.C.

Md.

D.C.

D.C.

Md.

Va.

Va.

N.Y.

D.C.

Va.

Ohio

N.Y.

Va.

D.C.

N.Y.

Mass.

Pa.

N.Y.

Mass.

Pa.

D.C.

D.C.

N.Y.

N.Y.

N.J.

N.Y.

Md.

D.C.

D.C.

D.C.

Mass.

D.C.

D.C.

Ill.

Oreg.

N.Y.

N.H.

SUMMARY OF REGISTRATION

SUMMER TERM 1948

FALL AND WINTER TERMS 1948-49

THE JUNIOR COLLEGE

	<i>Men</i>	<i>Women</i>	<i>Total</i>
Freshmen	1,865	761	2,626
Sophomores	2,272	823	3,095
	<u>4,137</u>	<u>1,584</u>	<u>5,721</u>

COLUMBIAN COLLEGE

Juniors	370	256	626
Seniors	341	237	578
Candidates for the degree of Master of Arts....	310	180	490
Candidates for the degree of Master of Science..	87	52	139
	<u>1,108</u>	<u>725</u>	<u>1,833</u>

THE GRADUATE COUNCIL

Candidates for the degree of Doctor of Philosophy	49	9	58
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THE SCHOOL OF MEDICINE

First Year	89	4	93
Second Year	73	8	81
Third Year	68	10	78
Fourth Year	59	9	68
	<u>289</u>	<u>31</u>	<u>320</u>

THE LAW SCHOOL

First Year	1,004	82	1,086
Second Year	809	46	855
Third Year	425	20	445
Candidates for the degree of Master of Laws...	150	5	155
Candidates for the degree of Master of Comparative Law	16	2	18
Candidates for the degree of Doctor of Juridical Science	16	1	17
Unclassified	64	1	65
	<u>2,484</u>	<u>157</u>	<u>2,641</u>

THE SCHOOL OF ENGINEERING

Freshmen	560	3	563
Sophomores	480	2	482
Juniors	322	3	325
Seniors	220	1	221
	<u>1,582</u>	<u>9</u>	<u>1,591</u>

THE SCHOOL OF PHARMACY

Juniors	49	5	54
Seniors	23	2	25
	<u>72</u>	<u>7</u>	<u>79</u>

THE SCHOOL OF EDUCATION

Juniors	45	75	120
Seniors	40	101	141
Candidates for the degree of Master of Arts.....	120	130	250
Candidates for the degree of Doctor of Education	37	10	47
	<u>242</u>	<u>316</u>	<u>558</u>

THE SCHOOL OF GOVERNMENT

Juniors	465	55	520
Seniors	308	39	347
Candidates for the degree of Master of Arts....	260	60	320
	<u>1,033</u>	<u>154</u>	<u>1,187</u>

THE DIVISION OF UNIVERSITY STUDENTS

University Students	2,685	1,602	4,287
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THE DIVISION OF SPECIAL STUDENTS

Special Students	1,782	288	2,070
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SECRETARIAL ADMINISTRATION

Candidates for the degree of Bachelor of Science in Secretarial Administration.....	0	3	3
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SUMMARY

Students Registered, Academic Year 1948-49...	17,788	5,949	23,737
Duplicate Registrations	<u>5,636</u>	<u>7,688</u>	<u>13,324</u>
Total Number of Students Registered Aca- demic Year 1948-49	15,463	4,885	20,348

Summary of Registration

535

Students Registered, Summer Sessions 1948.....	3,311	6,624	9,935
Total Registration—1948-49	21,099	12,573	33,672

TEACHING STAFF

Professors Emeritus	23
Professors	86
Adjunct Professors	14
Professorial Lecturers	90
Clinical Professors	25
Adjunct Clinical Professors	11
Associate Professors	43
Associate Clinical Professors	2
Associates in the School of Medicine.....	53
Assistant Professors	50
Assistant Clinical Professors	34
Lecturers	103
Instructors	35
Clinical Instructors	113
Research Associates	3
Associates	120
Fellows	31
Technical Assistants	11

DEGREES CONFERRED

Associate in Arts.....	1,076
Bachelor of Arts.....	460
Bachelor of Arts in Education.....	35
Bachelor of Arts in Government.....	406
Bachelor of Science.....	79
Bachelor of Science in Engineering.....	16
Bachelor of Civil Engineering.....	28
Bachelor of Electrical Engineering.....	65
Bachelor of Mechanical Engineering.....	59
Bachelor of Science in Home Economics.....	11
Bachelor of Science in Pharmacy.....	33
Bachelor of Science in Physical Education.....	20
Bachelor of Science in Secretarial Administration.....	4
Bachelor of Laws.....	273
Master of Arts.....	58
Master of Arts in Education.....	95
Master of Arts in Government.....	55
Master of Science.....	30
Master of Laws.....	38
Juris Doctor	21
Doctor of Juridical Science.....	1
Doctor of Medicine.....	69
Doctor of Education.....	3
Doctor of Philosophy.....	5

2,940

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

UNITED STATES, TERRITORIES, AND POSSESSIONS

Alabama	71	Nevada	23
Arizona	38	New Hampshire	91
Arkansas	64	New Jersey	367
California	292	New Mexico	32
Colorado	40	New York	1,320
Connecticut	192	North Carolina	165
Delaware	23	North Dakota	35
District of Columbia	7,622	Ohio	390
Florida	174	Oklahoma	93
Georgia	77	Oregon	51
Idaho	25	Pennsylvania	1,009
Illinois	320	Rhode Island	54
Indiana	117	South Carolina	54
Iowa	134	South Dakota	35
Kansas	86	Tennessee	107
Kentucky	78	Texas	210
Louisiana	32	Utah	34
Maine	60	Vermont	19
Maryland	2,290	Virginia	3,174
Massachusetts	308	Washington	55
Michigan	122	West Virginia	207
Minnesota	96	Wisconsin	123
Mississippi	58	Wyoming	19
Missouri	159	Hawaii	30
Montana	31	Puerto Rico	41
Nebraska	91	Alaska	1
		Guam	1

FOREIGN COUNTRIES

Australia	1	Iran	3
Belgium	6	Israel	1
British Guiana	3	Italy	5
Brazil	5	Mexico	4
Burma	3	Netherlands	2
Canada	8	Nicaragua	6
China	19	Norway	1
Colombia	2	Panama	7
Cuba	10	Philippines	1
Ecuador	1	Poland	1
Egypt	1	Portugal	1
England	1	Romania	1
France	3	Samoa	4
Germany	1	Siam	1
Greece	4	Sweden	1
Guatemala	1	Turkey	1
Honduras	1	Uruguay	1
Iceland	1	Venezuela	3
India	3	West Indies	

THE SCHOOL OF EDUCATION

1949-50

THE
GEORGE
WASHINGTON
UNIVERSITY
BULLETIN

VOL. XLVIII

No. 6

THE SCHOOL OF EDUCATION

WASHINGTON, D. C.

PUBLISHED IN SEPTEMBER
MCMXLIX

BY THE UNIVERSITY

CALENDAR
1949-50

CALENDAR OF THE SCHOOL OF EDUCATION

1949-50

Date	Day	Occasion
1949		
FALL TERM:		
Sept. 28-30.	Wednesday through Friday	Registration
Oct. 3.....	Monday	Academic year begins
Oct. 14.....	Friday	Thesis subjects of February Master's candidates due
Oct. 15.....	Saturday	Applications for Doctoral and Master's October comprehensive examinations due
Oct. 21.....	Friday	Dissertation subjects of May Doctoral candidates due
Oct. 22.....	Saturday	Comprehensive examinations for Doctoral and Master's candidates
Nov. 4.....	Friday	Bachelor of Arts activities plans due
Nov. 11.....	Thursday	Fall Convocation. Holiday
Nov. 24-26.	Thursday through Saturday	Thanksgiving recess
Dec. 10....	Saturday	Applications for Doctoral and Master's January comprehensive examinations due
Dec. 22- Jan. 2....	Thursday through Monday	Christmas recess
1950		
Jan. 3.....	Tuesday	Applications for February graduation due
Jan. 6.....	Friday	Dissertations of February Doctoral candidates due
Jan. 7.....	Saturday	Comprehensive examinations for Doctoral and Master's candidates
Jan. 21.....	Saturday	Last day of classes for the fall term
Jan. 23.....	Monday	Theses of February Master's candidates due
Jan. 23-31..	Monday through Tuesday	Fall term examination period
WINTER TERM:		
Feb. 2 and 3.	Thursday and Friday..	Registration
Feb. 6.....	Monday	Classes resume for the winter term
Feb. 17.....	Friday	Thesis subjects of May Master's candidates due

CALENDAR OF THE SCHOOL OF EDUCATION—Continued

Date	Day	Occasion
Feb. 22....	Wednesday	Winter Convocation. Holiday
Feb. 25....	Saturday	Activities plans due from Bachelor of Arts candidates entering the School in February
March 11...	Saturday	Applications for Doctoral and Master's April comprehensive examinations due
March 18...	Saturday	Dissertation subjects of November Doctoral candidates due
April 7 and 8....	Friday and Saturday..	Easter recess
April 14....	Friday	Dissertations of May Doctoral candidates due
		Dissertation subjects of February Doctoral candidates due
April 15....	Saturday	Applications for May graduation due
April 24....	Monday	Comprehensive examinations for Doctoral and Master's candidates
May 8....	Monday	Theses of May Master's candidates due
May 16....	Tuesday	Summer term preregistration of students registered winter term
May 17-25.	Wednesday through Thursday	Last day of classes for the winter term
May 28....	Sunday	Winter term examination period
May 31....	Wednesday	Baccalaureate Sermon
		Commencement
SUMMER TERM:		
June 5....	Monday	Registration of new students for the first session and the 15-week term
June 6....	Tuesday	Classes begin
June 12....	Monday	Registration and first day of classes of the pre-session
June 30....	Friday	Pre-session ends
July 3....	Monday	Registration and first day of classes of 6-week session
July 12....	Wednesday	Applications for Doctoral and Master's July comprehensive examinations due
July 26....	Wednesday	Comprehensive examinations for Doctoral and Master's candidates
July 31....	Monday	First summer session ends
Aug. 1....	Tuesday	Registration for the second session
Aug. 2....	Wednesday	Classes begin

CALENDAR OF THE SCHOOL OF EDUCATION—Continued

Date	Day	Occasion
Aug. 7....	Monday	Applications for November graduation due
Aug. 11....	Friday	Six-week session ends
Aug. 14....	Monday	Registration and first day of classes of post-session
Aug. 21....	Monday	Dissertations of November Doctoral candidates due
Aug. 28....	Monday	Theses of November Master's candidates due
Sept. 1....	Friday	Post-session ends
Sept. 4....	Monday	Labor Day. Holiday
Sept. 15....	Friday	Fifteen-week term ends
Sept. 22....	Friday	Second summer session ends
Sept. 27-29.	Wednesday through Friday	Registration for the fall term of the academic year 1950-51

THE BOARD OF TRUSTEES

The Board of Trustees of the University is composed of the President and Vice-President of the University ex officio and the following persons by election:

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Henry Parsons Erwin, A.B., *Secretary*

*Newell Windom Ellison, A.B., LL.B., *Assistant Secretary*

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Clarence Aiken Aspinwall

Lyman James Briggs, Ph.D., Sc.D., D.Eng., LL.D.

John St. Clair Brookes, Jr., A.M., LL.B.

John Henry Cowles, LL.D.

Homer Cummings, Ph.B., LL.B., LL.D., L.H.D.

*Watson Davis, B.S. in C.E., C.E.

Mrs. Joshua Evans, Jr., A.B., Ed.D.

*Robert Elliott Freer, A.B., LL.M.

Charles Carroll Glover, Jr., A.M., LL.B.

Gilbert Grosvenor, A.M., LL.D., Litt.D.

*Brooks Hays, A.B., LL.B., LL.D.

John Edgar Hoover, LL.M., LL.D.

*Frank Atherton Howard, B.S. in M.E., LL.B.

Alfred Henry Lawson, LL.B.

Benjamin Mosby McKelway

*Claude Worthington Owen, LL.M.

Mrs. Henry Alvah Strong, LL.D.

Walter Rupert Tuckerman, A.B., LL.B.

Alexander Wetmore, Ph.D., Sc.D.

*Charles Stanley White, M.D., Sc.D.

Lloyd Bennett Wilson

* Nominated by the alumni.

OFFICERS OF ADMINISTRATION

THE UNIVERSITY

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Ulysses S. Grant, 3d, B.S., *Graduate United States Engineers School,*
Vice-President

Harold Griffith Sutton, M.S., *Director of Admissions*

Fred Everett Nessel, A.B., *Registrar; Secretary of the Faculties*

John Russell Mason, B.S. in L.S., A.M., *Librarian; Curator of Art*

Myrna Pauline Sedgwick, A.B., *Administrative Secretary*

Henry William Herzog, B.S., *Comptroller*

Donald Blanchard, B.C.E., *Business Manager*

Claud Max Farrington, A.M., *Director of Activities for Men*

Virginia Randolph Kirkbride, A.M., *Director of Activities for Women*

Alan Thomas Deibert, A.M., *Adviser to Students from Foreign Coun-*
tries

Mitchell Dreese, Ph.D., *Dean of the Summer Sessions*

Daniel LeRay Borden, A.M., M.D., *Director of Health Administration*

Ruth Harriet Atwell, A.M., *Director of Physical Education for Women*

Lester Allan Smith, A.M., *Director of Alumni Relations*

John Rust Busick, A.B., *Director of Public Relations*

Don Carlos Faith, A.B., *Director of Veterans Education*

THE FACULTY AND STAFF OF INSTRUCTION *

THE SCHOOL OF EDUCATION

Cloyd Heck Marvin, Ph.D., LL.D., *President of the University*
James Harold Fox, A.M., Ed.D., *Dean of the School of Education*

Henry Grattan Doyle, A.M., LL.D., Litt.D., *Professor of Romance Languages*

Ruth Harriet Atwell, A.M., *Professor of Physical Education for Women*

Frank Mark Weida, Ph.D., *Professor of Statistics*

Mitchell Dreese, Ph.D., *Professor of Educational Psychology*

James Harold Fox, A.M., Ed.D., *Professor of Education*

Thelma Hunt, Ph.D., M.D., *Professor of Psychology*

Frances Kirkpatrick, A.M., *Professor of Home Economics*

William Henry Myers, A.M., *Professor of Physical Education for Men*

Burnice Herman Jarman, A.M., Ed.D., *Professor of Education*

Chester Elwood Leese, Ph.D., *Professor of Physiology*

William Cullen French, Ph.D., *Professor Emeritus of Education in Residence*

Meredith Chester Wilson, B.S., *Adjunct Professor of Education*

Ruth Coyner Little, Ph.D., *Professorial Lecturer in Education*

Ray LaForest Hamon, Ph.D., *Professorial Lecturer in Education*

† Benjamin Franklin Kyker, A.M., *Professorial Lecturer in Education*

Charles Edward Bish, A.M., Ed.D., *Professorial Lecturer in Education*

Henry Fred Alves, A.M., *Professorial Lecturer in Education*

Cecil Wentworth Morgan, Ph.D., *Professorial Lecturer in Physical Education*

Bernath Eugene Phillips, Ph.D., *Professorial Lecturer in Physical Education*

Robert Floyd Cromwell, Ed.D., *Professorial Lecturer in Education*

Robert Wendell Eaves, A.M., Ed.D., *Professorial Lecturer in Education*

Harold Mehrens, A.M., Ed.D., *Professorial Lecturer in Education*

Helen Bennett Lawrence, A.M., *Associate Professor of Physical Education for Women*

Kathryn Mildred Towne, A.M., *Associate Professor of Home Economics*

Elizabeth Burtner, A.M., *Associate Professor of Physical Education for Women*

* The President of the University, the Dean of the School, the Registrar of the University, the Director of Admissions of the University, Professors, Adjunct Professors, Associate Professors, Assistant Professors, and Instructors constitute the Faculty.

† On leave of absence 1949-50.

Joseph Henry Krupa, M.S., *Associate Professor of Physical Education for Men*

Blake Smith Root, A.M., Ed.D., *Associate Professor of Education*

Ralph Windsor Ruffner, A.M., Ed.D., *Associate Professor of Education*

Dorothy Helene Veon, Ed.D., *Assistant Professor of Secretarial Studies*

Virginia Loretta Dennis, A.M., *Assistant Professor of Physical Education for Women*

Raymond George Hanken, B.S. in P.E., *Assistant Professor of Physical Education for Men*

Marjorie Tate, A.M., *Assistant Professor of Physical Education for Women*

Vincent James DeAngelis, B.S. in P.E., A.M. in Ed., *Assistant Professor of Physical Education for Men*

Jane Frost Hilder, A.M., *Lecturer in Education, Director of Reading Clinic*

Madaline Kinter Remmlein, Ph.D., J.D., *Lecturer in Education*

*LuVerne Crabtree Walker, A.M., *Lecturer in Education*

*Helen Barton Goodwin, A.M., *Lecturer in Education*

Ralph Waldo Foster, A.M., *Lecturer in Physical Education*

Camilla Painter Luecke, A.M., *Lecturer in Education*

Florence Mary Lumsden, A.M., Ed.D., *Lecturer in Education*

William Samuel Rumbough, A.M., *Lecturer in Education*

Cannon Chiles Hearne, A.M., *Lecturer in Education*

Harold Maurice Wilson, A.M., *Lecturer in Education*

Shirley Smith, A.B., *Instructor in Physical Education for Women*

Marie Marguerite Neeb, A.M., *Clinician, Reading Clinic*

COMMITTEES‡

THE DEAN'S COUNCIL §

1950

Dorothy Helene Veon

Ralph Windsor Ruffner

1951

Thelma Hunt

Frances Kirkpatrick

1952

Frank Mark Weida

Elizabeth Burtner

COMMITTEE ON ADMISSIONS AND ADVANCED STANDING

The Dean of the School, *Chairman*

Harold Griffith Sutton

Frances Kirkpatrick

William Henry Myers

Frank Mark Weida

Burnice Herman Jarman

Ruth Harriet Atwell

* On leave of absence 1949-50.

‡ The President of the University and the Dean of the School of Education are members of office of all committees.

§ Elected by the Faculty.

GENERAL INFORMATION

INTRODUCTORY

It is the purpose of the School of Education to prepare teachers, supervisors, and administrators for the higher ranges of educational service and to offer opportunities to teachers of experience to extend their education. The School includes the departments of Education, Physical Education, and Home Economics.* It offers both graduate and undergraduate work. Other departments of the University provide general education and subject-matter courses needed for a well-balanced program of teacher education.

The schedule of courses is arranged to meet the convenience of both full-time and part-time students. By attending evening, Saturday, and summer classes, teachers in the schools of Washington and the vicinity may complete all the requirements for a degree without giving up their positions.

To help children and adults with reading difficulties, the School of Education operates a reading clinic for diagnosis and treatment.

HISTORICAL DEVELOPMENT

The University began offering professional courses for teachers in 1904-5 and in 1907 it established a Division of Education. In 1909, the Division of Education became the Teachers College which, in its early years, was concerned largely with teacher preparation on the undergraduate level.

In 1928, the Teachers College became the School of Education and greater provision was made for advanced study. Since that time the graduate enrollment has steadily increased with the result that today the School has a considerably larger number of graduate than undergraduate students.

ADVANTAGES OF STUDY IN THE NATION'S CAPITAL

Washington is rich in the resources needed by teachers to supplement classroom instruction. In addition to the library facilities of the University, the Library of Congress, the Library of the Office of Education, and many special collections provide unexcelled opportunities for reading and research. The operation of all branches of the National Government may be observed. Among the art galleries are the National Gallery of Art, the Corcoran Gallery of Art, the Freer Art Gallery,

* The Department of Home Economics offers a curriculum in home-making. Its program is described in a special announcement.

Phillips Memorial Gallery, and the National Museum. The winter concerts and the summer Watergate series of the National Symphony Orchestra delight lovers of good music. Those interested in science find many resources for study at the National Museum, the National Zoological Park, the United States Botanic Garden, and the Aquarium of the Fish and Wildlife Service, Department of the Interior. Teachers have unique opportunities to become acquainted with the work of the Office of Education, the National Education Association, the American Council on Education, and many other national organizations with headquarters in Washington.

ACADEMIC STATUS

The George Washington University is on the final approved list of the Association of American Universities. This fact not only assures to students the academic standards of this association, but also is important to those who desire to transfer credits from one institution to another.

The University is also accredited by its regional accrediting agency the Middle States Association of Colleges and Secondary Schools, and is on the approved list of the American Association of University Women.

The School of Education is a member of the American Association of Colleges for Teacher Education and was a charter member of the National Association of Colleges and Departments of Education prior to the merger of that association with others to form the American Association of Colleges for Teacher Education.

PROGRAMS FOR THE EDUCATION OF TEACHERS

PROGRAMS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION FOR MEN

There are three curricula leading to this degree. The Dual-Major Teacher's Course is designed to prepare students for teaching positions in smaller schools where it is necessary to teach an academic subject in addition to physical education. The Single-Major Teacher's Course prepares for the teaching of physical education in the larger schools. The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to the teaching of physical education.

The following courses, to be taken in the Junior College, are required for admission to the School of Education:

	Credit Hours
English	English 1-2 6
Social Studies	History 39-40, 71-72, Political Science 9-10, or Sociology 1-2 (Freshman year) 6
	Economics, History, or Political Science (Sophomore year) 6
Science	Biology 1-2 or Zoology 1-2 (Freshman year) 6 or 8
Physical Education ..	Physical Education for Men 1-2, 11-12 8
Curriculum Electives.	Physical Education 42, 43-44, 47; Psychology 1, 22 (Freshman year) 14
	Physical Education 45-46, 49, 58; Speech 21 (Sophomore year) 12
Elective	To satisfy minimum required credits (Sophomore year).
<hr/>	
Total:	
	Freshman year 36 or 38
	Sophomore year 32

The minimum requirements for this degree are 66 credit hours, distributed as follows:

Dual Major Teacher's Course

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Society and the School.....	6	Common Teaching Skills.....	3
Education electives.....	3	Observation and Practice Teaching	6
Play in Education and Recreation	3	History and Principles of Physical	
Introduction to Methods in Physical Education.....	2	Education.....	3
Directed Teaching in Physical Education Activities.....	4	Methods and Materials of Health Education.....	3
Physical Education electives.....	3	Tests and Measurements in Physical Education.....	3
Physiology.....	3	Administration and Organization of Physical Education.....	3
Academic teaching field.....	9	Academic teaching field.....	9
Total.....	33	Electives.....	3
		Total.....	33

Single-Major Teacher's Course

The minimum requirements for this degree are 35 credit hours in physical education, 18 credit hours in education, 3 credit hours in physiology, and 10 credit hours of electives:

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Society and the School.....	6	Common Teaching Skills.....	3
Education electives.....	3	Observation and Practice Teaching	6
Play in Education and Recreation	3	History and Principles of Physical	
Introduction to Methods in Physical Education.....	2	Education.....	3
Leadership Organization in the Intramural Program.....	4	Methods and Materials of Health Education.....	3
Directed Teaching in Physical Education Activities.....	4	Applied Anatomy and Physiology	3
Methods in Major Sport Activities	4	Kinesiology of Sports for the Physically Handicapped.....	3
Physiology.....	3	Tests and Measurements in Physical Education.....	3
Electives.....	4	Administration and Organization of Physical Education.....	3
Total.....	33	Electives.....	3
		Total.....	33

Physical Education and Recreation Course

The minimum requirements for this course are 66 credit hours, distributed as follows:

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Society and the School.....	6	Common Teaching Skills.....	3
Play in Education and Recreation	3	Observation and Practice Teaching	6
Introduction to Methods in Physical Education.....	2	History and Principles of Physical Education	3
Leadership Organization in the Intramural Programs.....	4	Methods and Materials of Health Education	3
Directed Teaching in Physical Education Activities.....	4	Tests and Measurements in Physical Education.....	3
Group Leadership Activities.....	6	Administration and Organization of Physical Education.....	3
Electives	8	Group Leadership Activities.....	6
Total.....	33	Community Organization for Recreation	1
		Administration and Supervision of Recreation	3
		Total.....	33

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION FOR WOMEN

There are three curricula leading to the degree. The Dual Major Teacher's Course is designed to prepare students for positions in schools where it is necessary to teach an academic subject in addition to Physical Education.

The Single Major Teacher's Course prepares for the teaching of Physical Education in the larger schools. Within this course there is opportunity for specialization in dance, sports, or correctives.

The Physical Education and Recreation Course has been planned for those who wish to be prepared to direct programs of recreation in addition to teaching Physical Education.

For graduate courses in these areas see Programs of Study for the Degree of Master of Arts in Education, Page

The following courses, to be taken in the Junior College, are required for admission to the School of Education:

	Credit Hours	
English	English 1-2	6
Social Studies	English 51-52, 71-72, or 91-92.....	6
Science	History 39-40, 71-72; Political Science 9-10; or So- ciology 1-2	6
Physical Education	Biology 1-2 or Zoology 1-2.....	6 or 8
Curriculum Electives.....	Physical Education for Women 1-2, 11-12.....	4
Academic Electives.....	Physical Education 13-14 (Freshman year).....	4
	Physical Education 15-16, 18, 49; Psychology 1, 22 (Sophomore year)	16
	(Each year)	6 or 8
Total.....		64 or 66

Dual or Single Major Teacher's Course

The student desiring to prepare herself to teach another subject in addition to Physical Education for Women may do so by choosing her elective hours from one subject-matter field with the advice of the Dean of the School of Education. Relevant work completed in the Junior College may be counted in this subject-matter field.

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Society and the School.....	6	Observation and Practice Teaching	6
Play in Education and Recreation	3	Problems in Teaching Physical Education Activities	4
History and Principles of Physical Education	2	School and Community Health Problems	3
Therapeutic and Remedial Physical Education and Physical Examinations	6	Methods and Materials of Health Instruction	3
Methods of Teaching Physical Education Activities	4	Clinical Work in Therapeutic and Remedial Physical Education...	3
Camp Leadership	1	Tests and Measurements in Physical Education	3
Physiology	3	Administration of Physical Education	3
Academic teaching field or electives	8	Academic teaching field or electives	8
Total.....	33	Total.....	33

Physical Education and Recreation Course

JUNIOR YEAR	Credit Hours	SENIOR YEAR	Credit Hours
Society and the School.....	6	Observation and Practice Teaching	6
Introduction to Recreation	2	Problems in Teaching Physical Education Activities.....	2
Play in Education and Recreation	3	School and Community Health Programs	3
History and Principles of Physical Education	2	Methods and Materials of Health Instruction	3
Therapeutic and Remedial Physical Education and Physical Examinations	6	Administration of Physical Education	3
Methods of Teaching Physical Education Activities	4	Group Leadership Activities.....	6
Camp Leadership	1	Community Organization for Recreation	3
Group Leadership Activities.....	6	Electives	7
Physiology	3	Total.....	31
Total.....	33	Total.....	31

PROGRAMS LEADING TO THE DEGREE OF BACHELOR OF ARTS
IN EDUCATION

Programs leading to the degree of Bachelor of Arts in Education have three main objectives: (1) provision of a general educational background, (2) a functional command of ideas, concepts, knowledges, and skills in one or more teaching fields, and (3) a mastery of basic pro-

fessional information and skills adequate for a beginning teacher. Since the contents of teaching fields differ in scope and complexity, some programs are longer than others in terms of credit hours. None require less than 126 credit hours of satisfactory work, exclusive of required Physical Education. Normally, 60 credit hours of the total requirement is completed in the Junior College of the University or in an equivalent institution elsewhere.

GENERAL EDUCATION

The general educational backgrounds needed by prospective teachers are obtained through: (1) pre-college education, (2) college courses, (3) work experience, (4) leadership activities, (5) participation in student campus activities, and (6) utilization of off-campus cultural opportunities.

College course requirements.—Course requirements depend in part upon the senior high school credits presented for college admission. They are as follows:

ENGLISH

Credit
Hours

English 1-2: Freshman English.....	6
Special placement examinations, required of all entering freshmen, are conducted by the English Department. Those students who show marked superiority may be exempted from one or both terms of the course.	
One of the following survey courses in literature.....	6
English 51-52: Introduction to English Literature	
English 71-72: Introduction to American Literature	
English 91-92: Introduction to European Literature	

FOREIGN LANGUAGES

12

French, German, Latin, or Spanish.....
A student offering for admission four acceptable high school units of a single foreign language, or the equivalent, is not required to take any foreign language. If he offers three units, he must complete the second term of the second-year college course in the same language. If he offers two units, he must complete the entire second-year college course in the same language. If he offers one unit, he must complete the second term of the first-year college course and the entire second-year course in the same language.

SOCIAL STUDIES

History 71-72: The Development of American Civilization.....	6
Another Social Science chosen from the following courses.....	6
Economics 1-2: Introductory Economics	
Geography 51, 52: Introduction to Geography; Introduction to Earth Sciences	
History 39-40: The Development of European Civilization	
Political Science 9-10: Government of the United States	
Sociology 1-2: Introductory Sociology	
A student offering for admission two or more acceptable senior	

high school units in the Social Studies may be exempted from the second part of this requirement.

SCIENCE AND MATHEMATICS

Two terms of science or mathematics to supplement senior high school courses in these fields and chosen from the following.....

Biology 1-2: Survey in Biology
 Botany 1-2: Structure and Functions of the Flowering Plant; Survey of the Plant Kingdom
 Chemistry 11-12: General Chemistry
 Mathematics 3 and 6: College Algebra; Plane Trigonometry
 Mathematics 6 and 12: Plane Trigonometry; Analytic Geometry
 Physics 5 and 6, or 6 and 7: General Physics
 Zoology 1-2: Introduction to Zoology

6-8

OTHER COURSES

Psychology 1 and 22: General and Educational Psychology.....
 Speech 11: Training of the Speaking Voice or
 Speech 21: Effective Speaking.....
 Students who demonstrate marked superiority in Speech may be exempted from this requirement. Such exemption is granted only on the recommendation of the Department of Speech.
 Statistics 53: Introduction to Statistics in Psychology and Education

6

3

3

ACADEMIC ELECTIVES

Electives may be increased through the various exemptions.

PHYSICAL EDUCATION

Physical Education 1-2 and 11-12

A student may be exempted from this requirement if registered for less than three courses or regularly employed during the day.

Minimum required credits.....60 or 62

Work experience, leadership activities, participation in student campus activities, and the utilization of off-campus cultural opportunities.— Obviously, these cannot be prescribed. Nevertheless, they constitute an important part of the general educational background of prospective teachers. In conference with a staff member of the Department of Education assigned as his general adviser, the student is expected to plan adequate experiences in these areas. Not later than one month after matriculation in the School of Education the student must file in the Office of the Dean a statement of such plans approved by his adviser. He must also keep his adviser informed concerning the fulfillment of his plans and to this end include in plans filed, scheduled conferences with his adviser.

Success of the student in enriching his general educational background by these means will be taken into consideration at the end of the first

term of the junior year when the faculty will review the qualifications of candidates to determine any who are not of sufficient promise as prospective teachers to warrant continuation of their candidacies. Success in these activities will also be considered when the list of candidates is again reviewed early in the last term of the senior year immediately after the results of the National Teacher Examinations are available. In estimating the success of the student in this connection, more weight will be given to evidence of initiative, eagerness to make the most of each experience, balance, and quality of experience than to the number of different experiences.

Although the student is not required to establish a program of non-academic activities until he becomes a degree candidate in the School of Education, he is advised to do so as soon as he enters the Junior College. To this end, he should consult with the Junior College adviser of students in the pre-Education curriculum soon after entering the Junior College. Whatever is accomplished in this connection while in the Junior College will reduce the obligations of the student after admission to the School of Education.

TEACHING-FIELD PREPARATION

Teaching-field preparation depends upon the kind of teaching position for which the student is preparing. Those planning to teach in elementary schools need a degree of competency in several fields. Those preparing to teach in junior or senior high schools must demonstrate competency in a major teaching field and a minor teaching field. Ordinarily, students preparing to teach in evening schools for adults are required to prove competency in only one teaching field.

The student should begin teaching-field preparation while in the Junior College and should make provision for it in planning his program of studies.

Teaching-field requirements include satisfactory completion of prescribed academic courses, a satisfactory score on the special field examination of the National Teacher Examinations, and satisfactory completion of the prescribed special methods course.

Prescribed academic courses vary in number in accordance with the scope and complexity of the teaching field and the license requirements of the various states. Minimum academic course requirements for each major teaching field are listed on succeeding pages. Minor teaching-field requirements are somewhat less than those of a major field. They are determined in conference with an adviser.

The prescribed course in special methods is concerned primarily with methods of initiating, guiding, and evaluating learning experiences dealing with the content of the teaching field. It attempts to bring to the student specific suggestions drawn from the accumulated experience of

successful teachers. However, in addition, the course reviews the teaching-field content currently in use in schools and the examination at the end of the course provides the final test of competency in the teaching field.

Prescribed Courses in the Various Teaching Fields

ART		Credit Hours
One two-term course from the following group.....		6
Art 121-22: World History of Art		
Art 151-52: Modern Art		
Art 161-62: History of Art Criticism		
One two-term course from the following group.....		6
Art 101-2: The Design of the Home		
Art 141-42: Interior Decoration		
Art 143-44: Folk Arts of America		
Two two-term courses from the following group.....		24
Art 67-68: Life and Portrait—Drawing and Painting		
Art 73-74: Still Life and Portrait—Drawing and Painting; Antique Drawing		
Art 165-66: Life and Portrait—Drawing and Painting		
Art 175-76: Composition		
Art 179-80: Sculpture		
Art 183-84: Design and Commercial Art		
Art 185-86: Advanced Commercial Art		
Education 141-42: Teaching Art.....		6
Total.....		42

BIOLOGY		
Biology 1-2: Survey in Biology.....		6
Botany 1: Structure and Functions of the Flowering Plant.....		3
Zoology 1-2: Introduction to Zoology.....		8
Physiology 115: Physiology.....		3
Home Economics 152: Nutrition.....		12
Additional courses as approved by the Adviser.....		3
Education 144: Teaching Science.....		
Total.....		37

BUSINESS EDUCATION		
Economics 1-2: Introductory Economics.....		6
Business Administration 51: Introductory Accounting.....		3
Secretarial Studies 51: Business Correspondence and Reports.....		3
Additional courses as prescribed in one of the following groups:		
Group 1—Secretarial Studies		8
Secretarial Studies 2: Intermediate Typewriting.....		4
Secretarial Studies 12: Shorthand and Transcription.....		
Secretarial Studies 15: Advanced Shorthand, Typewriting, and Transcription		3

Secretarial Studies 10: Secretarial Shorthand, Typewriting, and Transcription	3
Secretarial Studies 54: Secretarial Practice.....	3
Additional courses as approved by the Adviser.....	6
Education 150: Teaching Business Education.....	2
Total.....	35
Group 2—Bookkeeping, Business Arithmetic, and Business Law	
Business Administration 52: Introductory Accounting.....	1
Business Administration 101: Business Organization and Combination	3
Business Administration 102: Business Management.....	3
Statistics 52: Mathematics of Finance.....	3
Political Science 127-28: Commercial Law.....	6
Two of the following courses, as approved by the Adviser.....	6
Business Administration 115: Business Finance	
Business Administration 118: Investments	
Business Administration 128: Insurance	
Business Administration 155: Analysis of Financial Statements	
Economics 121: Money and Banking	
Education 150: Teaching Business Education.....	2
Total.....	38
Group 3—Distributive Education	
Business Administration 171: Marketing.....	3
Business Administration 172: Marketing Problems.....	3
Business Administration 191: Problems in Retailing.....	3
Economics 141: Labor Economics.....	3
Three of the following courses as approved by the Adviser.....	12
Political Science 127: Commercial Law: Contracts, Agency, and Bailments	
Political Science 128: Commercial Law: Negotiable Instruments, Property, Sales, Mortgages	
Home Economics 123: Household Finance and Problems of the Consumer	
Business Administration 173: Cooperative Marketing	
Business Administration 191: Problems in Retailing	
Education 150: Teaching Business Education.....	2
Total.....	38

CHEMISTRY

Chemistry 11-12: General Chemistry.....	8
Chemistry 21: Qualitative Inorganic Analysis.....	4
Chemistry 22: Quantitative Inorganic Analysis.....	4
Chemistry 151-52: Organic Chemistry.....	8
Chemistry 191: History of Chemistry.....	2
One of the following two-term courses.....	8-10
Chemistry 111-12: Physical Chemistry	
Biochemistry 221-22: Biochemistry	
Education 144: Teaching Science.....	2
Total.....	36-38

ELEMENTARY EDUCATION *

Education 123-24: Reading Problems.....	6
Two of the following courses.....	6
Education 224: New Developments in Children's Literature	
English 125: The Evolution of Modern Speech	
English 126: The Appreciation of Literature	
Speech 175-76: Speech Correction	6
One of the following two-term courses.....	
History 39-40: The Development of European Civilization	
Economics 1-2: Introductory Economics	
Geography 51, 52: Introduction to Geography and Earth Sciences	
Political Science 9-10: Government of the United States	6
One of the following two-term courses or two one-term courses.....	
Biology 1-2: Survey in Biology	
Botany 5: Field Botany	
Physical Education 121: School and Community Health Programs	
Physiology 115: Physiology	
Zoology 5-6: Field Zoology	6
One of the following two-term courses or two one-term courses.....	
Education 209-10: Child Growth and Development	
Home Economics 164: Child Nutrition	
Home Economics 181x: The Child in the Home	
Psychology 29: Child Psychology	6
One of the following two-term courses or two one-term courses.....	
Art 71-72: Introduction to the Arts in America	
Art 101-2: The Design of the Home	
Art 141-42: Interior Decoration	
Art 143-44: Folk Arts of America	
Home Economics 123: Household Finance and Problems of the Consumer	
Psychology 2: Applied Psychology	
Psychology 98: Abnormal Psychology	6
One of the following two-term courses.....	
Education 221-22: Early Childhood Education	
Education 225-26: Elementary Education in the Intermediate Grades	
Total.....	42

ENGLISH

English 1-2: Freshman English.....	6
Speech 11: Training the Speaking Voice or	3
Speech 21: Effective Speaking.....	6
English 51-52: Introduction to English Literature.....	3
English 72: Introduction to American Literature.....	3
English 125: The Evolution of Modern Speech.....	3
English 126: The Appreciation of Literature.....	6
English 135-36: Shakespeare.....	6
One of the following two-term courses or two one-term courses.....	
English 182: The English Novel	
English 184: The English Drama	

* Limited to graduates of a two- or three-year normal school.

English 151-52: The Romantic Movement	
English 161-62: Victorian Literature	
English 175: The American Drama	
English 177-78: Recent American Literature	
Education 136: Teaching English.....	3
Total.....	39

FRENCH

French 1-2: First-year French.....	6
French 3-4: Second-year French.....	6
French 109-10: French Conversation and Composition.....	6
French 131-32: History of French Civilization.....	6
Additional courses in French as approved by the Adviser.....	12
Education 146: Teaching Foreign Languages.....	3
Total.....	39

GERMAN

German 1-2: First-year German.....	6
German 3-4: Second-year German.....	6
German 107-8: Advanced Prose Composition.....	2
German 115-16, 117-18: Survey of German Literature.....	12
Additional courses in German as approved by the Adviser.....	6
Education 146: Teaching Foreign Languages.....	3
Total.....	35

HISTORY

History 39-40: The Development of European Civilization.....	6
History 71-72: The Development of American Civilization.....	6
Six credit hours, as approved by the Adviser, from each of the following groups.....	18
Group 1—American History	
History 171-72: Social History of the United States	
History 181-82: Diplomatic History of the United States	
History 174: Economic History of the United States	
Group 2—European History	
History 151-52: English History	
History 130: Nationalism	
History 139: Modern Imperialism	
History 145-46: Russian History	
History 147: Economic History of Europe	
History 149-50: European Diplomatic History	
Group 3—Latin American History	
History 161-62: Latin American History	
History 163-64: Current Latin American Problems	
Additional credit hours, as approved by the Adviser from one of the foregoing groups.....	6
Education 138: Teaching the Social Studies.....	2
Total.....	38

MATHEMATICS

Mathematics 3:	College Algebra.....	3
Mathematics 6:	Plane Trigonometry.....	3
Mathematics 12:	Analytic Geometry.....	3
Mathematics 19:	Differential Calculus.....	3
Mathematics 20:	Integral Calculus.....	3
Mathematics 125:	Advanced Algebra.....	3
Mathematics 132:	Differential Equations, or	
Mathematics 139:	Advanced Calculus.....	3
An additional course in Mathematics as approved by the Adviser....		3
Statistics 52:	Mathematics of Finance.....	3
Education 140:	Teaching Mathematics.....	2

Total..... 29

PHYSICS

Physics 5, 6, 7, and 8:	General Physics.....	11
Physics 55:	Physical Measurements.....	3
Physics 101:	Mechanics.....	3
Physics 105:	Principles of Electricity.....	3
Physics 106:	Optics.....	3
Mathematics 12:	Analytic Geometry.....	3
Mathematics 19:	Differential Calculus.....	3
Mathematics 20:	Integral Calculus.....	3
Chemistry Elective—Chemistry 11-12: General Chemistry or		
Chemistry 12-21:	General Chemistry and Qualitative Inorganic	8
Analysis.....		6
Six credit hours to be selected from the following.....		
Physics 102:	Heat and Thermodynamics	
Physics 113:	Atomic and Molecular Physics	
Physics 128:	Sound	
Physics 132:	Electronics	
Physics 155:	Advanced Physical Measurements	3
Education 144:	Teaching Science.....	47

Total..... 47

SOCIAL STUDIES

History 39-40:	The Development of European Civilization.....	6
History 71-72:	The Development of American Civilization.....	6
Political Science 9-10:	Government of the United States.....	13
Two of the following courses.....		
Economics 1-2:	Introductory Economics	
Geography 51, 52:	Introduction to Geography and Earth Sciences	
Sociology 1-2:	Introductory Sociology	
Additional second-group courses as approved by the Adviser from one		
of the following fields: Economics, Geography, History, Political		13
Science, Sociology.....		3
Education 138:	Teaching Social Studies.....	45

Total..... 45

SPANISH

Spanish 1-2: First-year Spanish.....	6
Spanish 3-4: Second-year Spanish.....	6
Spanish 109-10: Spanish Conversation and Composition.....	6
Additional courses as approved by the Adviser.....	18
Education 146: Teaching Foreign Languages.....	3
Total.....	39

SPEECH

Speech 11: Training the Speaking Voice.....	3
Speech 12: Oral Reading.....	3
Speech 21, 22: Effective Speaking; Speech Making.....	6
Speech 102: Oral Interpretation of Literature.....	3
Additional courses as approved by the Adviser from the following...	15
Speech 41: Parliamentary Law	
Speech 135: Argumentation and Debate	
Speech 151-52: Acting	
Speech 163: Play Direction	
Speech 175-76: Speech Correction	
Education 136: Teaching English.....	2
Total.....	32

PROFESSIONAL EDUCATION

The basic professional information and skills needed by beginning teachers are provided through four one-year courses, two in each of the junior and senior years. Lectures and class discussions are closely coordinated with field work. Instruction is differentiated to meet the needs of those preparing to teach on the various levels—elementary school, junior high school, senior high school, and adult.

Professional Courses

Education 109-10: Learning and Teaching.....	6
Education 121-22: Society and the School.....	6
Education 131: Common Teaching Skills.....	3
Education 136 to 150: Special Methods.....	2-6
Education 133-34: Observation and Practice Teaching.....	6
Total.....	23-27

Learning and Teaching.—Candidates enrolled in four-year programs leading to the degree of Bachelor of Arts take this course in the junior year. Those enrolled in five-year programs take it in the senior year.

The course attempts to promote a functional understanding of the nature of learning and teaching by focussing the attention of the student upon actual classroom situations and the psychological, sociological, and educational principles relevant to them.

Classes meet for lecture and discussion two hours a week. At least an equal amount of time is spent in observation and study of classroom situations. Class discussion normally revolves around these field experiences.

The course, particularly during the first term, is also intended to provide the student with exploratory experiences of assistance to him in deciding whether or not his choice of the profession of teaching has been wise. The student's performance in connection with the course is one of the factors considered when the Faculty reviews the list of candidates who have completed the first term of the junior year (senior year for those enrolled in five-year programs).

Society and the School.—This course is also taken in the junior year by candidates enrolled in four-year programs (senior year by those in five-year programs).

The first term of the course attempts to promote an understanding and appreciation of the role of schools in the sound promotion of the enduring interests of our democratic society. More particularly, it attempts to develop a functional understanding of the contributions of all social agencies in the education of people and of desirable cooperative working relations that help the school to play its part as a member of the institutional "team" of the community.

The second term of the course is concerned with study of the school as a whole—its purposes, program of studies, out-of-class activities, general organization, and major instructional problems. Although schools at all levels are studied, students give particular attention to schools at the level within which they are preparing to teach.

During both terms of this course classes meet for lecture and discussion two hours a week. At least an equal amount of time is spent in field study. During the first term each student makes an extended study of one cooperating social institution and shorter studies of ten others. In the second term extended study of schools at the level of the student's special interest is supplemented by briefer studies of schools at other levels. Class discussion is largely determined by field experiences.

This course is also intended to provide the student with exploratory experiences of guidance value. The performance of the student in the first term of the course is also given careful consideration by the Faculty in its review of the list of candidates at the beginning of the second term of the junior year (senior year for those enrolled in five-year programs).

Common Teaching Skills.—Those enrolled in four-year programs take this course in the senior year. Those enrolled in five-year programs take it in the fifth year.

The course is concerned with the skills needed by teachers in connec-

tion with classroom management, homeroom procedures, administrative routines, activity sponsorship, group planning, and public relations.

As in other professional courses, classes meet two hours a week for lecture and discussion and students devote at least an equal amount of time to field work. The observation of classroom teaching done in connection with the Observation Course (Education 133), for which students are normally enrolled concurrently, supplements the field work of the course.

Special Methods Courses.—Associated with each teaching field is a course dealing with its special teaching problems. In addition to the study of practices followed by successful teachers, actual teaching content as found in current texts and courses of study is reviewed. Needed content, not included in academic courses available for teaching field preparation, is taught in these courses.

Observation and Practice Teaching.—This course is taken in the senior year by students enrolled in four-year programs (in the fifth year by those in five-year programs).

It begins with the observation of classroom teaching in selected situations. Assumption of responsibility for teaching functions is gradual, leading eventually to practice in the complete direction of classroom activities. Those preparing to teach in secondary schools have the opportunity of observing and doing practice teaching in both major and minor teaching fields and on both junior and senior high school levels. The course is directed by a full-time member of the faculty of the School of Education. The work of each student is under the direct supervision of a critic teacher, selected because of unusual success in teaching, ability to supervise, and broad understanding of educational problems. Critic teachers are part-time members of the instructional staff of the School. Observation and teaching are done in the public schools of the metropolitan area of Washington, assuring practice in situations comparable to those the student is likely to face on becoming a teacher.

ADMISSION

To be admitted to candidacy for the degree of Bachelor of Arts in Education, the applicant must: (1) hold an Associate in Arts degree based on the Education Curriculum in the Junior College or the equivalent from another accredited higher institution, or a certificate of graduation from an approved normal school or the equivalent; (2) have a quality-point index of 2.00 (average grade of C) counting "Incomplete" grades as "F"; (3) have demonstrated a genuine interest in teaching and possess personality traits that give promise of success as a teacher; and (4) have an interview in the Office of the School of Education.

FIVE-YEAR PROGRAMS LEADING TO THE DEGREES OF BACHELOR OF ARTS AND MASTER OF ARTS IN EDUCATION

Five-year programs are designed: (1) to permit more adequate teaching field and professional preparation, (2) to prepare for special teaching positions, and (3) to meet teaching-certificate requirements based upon five years of preparation.

Students in these programs usually devote the junior year to additional teaching field preparation and general education. Ordinarily teaching field preparation is continued in the senior year and the first two professional courses (Education 109-10, 121-22) are taken. The work of the fifth year includes the remaining undergraduate professional courses and the balance of graduate courses needed to meet the requirements of the degree of Master of Arts.

Candidates must have a quality-point index of at least 2.50 before beginning the work of the senior year. As much as 18 credit hours of the work of the senior year may be taken for graduate credit. Observation and Practice Teaching, taken in the fifth year, may not be taken for graduate credit.

Candidates enrolled in five-year programs are able to prepare more adequately in their major or minor teaching fields, or in both. Additional teaching field courses must be approved by the Adviser in the teaching field concerned.

The five-year plan of study also provides an opportunity for candidates to prepare to teach "common learnings" courses in one or more of the various core curriculum plans now being adopted in many secondary schools. Such programs need to be carefully planned to meet the demands of the situation in which the candidate hopes to teach.

A number of cities and some states require five years of satisfactory preparation before issuing certain teaching certificates. Candidates seeking such certificates should familiarize themselves with the requirements of the community or state concerned and plan their programs accordingly.

Five-year programs must meet all the requirements of the degrees of Bachelor of Arts and Master of Arts in Education, and must be approved by the Adviser designated for these programs.

PROGRAMS LEADING TO THE DEGREE OF MASTER OF ARTS IN EDUCATION

Programs of study leading to the degree of Master of Arts are designed: (1) to enable teachers of experience to increase their knowledge of professional and academic information and skills, (2) to prepare for special types of educational service, and (3) to provide opportunities for graduates of liberal arts colleges to acquire needed professional education.

Programs are planned in conference with the designated Adviser and take into consideration the interests of the candidate, his previous background, and the certification requirements of the state and locality in which he plans to teach.

PLANS OF STUDY

Two general plans of study lead to the degree.

Plan 1.—This plan requires a minimum of 30 hours of graduate credit, including a thesis carrying 6 hours of graduate credit.

Plan 2.—This plan requires a minimum of 33 hours of graduate credit, including a course in *Educational Research Methods and Procedures* carrying 3 hours of graduate credit.

Graduate work completed in other accredited institutions of learning may be credited toward the Master's degree, but a minimum of 30 credit hours must be completed in the School of Education of The George Washington University.

Under Plan 1, a minimum of 12 credit hours, in addition to the thesis, must be from courses planned primarily for graduate students (third-group courses). Under Plan 2, a minimum of 18 credit hours, in addition to the course in *Educational Research Methods and Procedures*, must be from third-group courses. Under either plan a minimum of 12 credit hours, not including the thesis or the research course, must be from courses offered in the Department of Education.

Programs may provide for additional academic preparation in one or more teaching fields. In such cases, however, undergraduate and graduate courses combined must be at least equivalent to the undergraduate requirements for the degree of Bachelor of Arts in Education in the teaching field concerned.

Programs are normally based upon undergraduate preparation equivalent to the requirements of the degree of Bachelor of Arts in Education (see pages 11-12). Candidates with less professional preparation must make up their deficiencies either prerequisite to or as part of their graduate study.

Each candidate must file in the Office of the Dean not later than one month after admission to the School of Education a program of study approved by his Adviser.

All candidates must take, at one of the designated periods, a professional comprehensive examination which shall take into account the candidate's area of specialization.

PROGRAMS OF STUDY

Administration of Public School Systems

Programs of those interested in the position of school superintendent customarily include courses in General Administration, Supervision, and Administration of a School System. Additional courses are chosen as needed from Adult Education, Curriculum, Elementary Education, Guidance, Public Relations, School Finance, School Law, School Plant Planning, and Secondary Education.

Adult Education

Programs of those particularly interested in the education of adults may or may not include additional teaching-field preparation. In addition to six credit hours of work in Adult Education professional courses may be chosen from Audio-visual Education, Curriculum, Employee Training, Evaluation, Guidance, History of Education, Mental Hygiene, and Philosophy of Education.

Agricultural Extension Education

These programs are designed for those with successful experience in agricultural extension education. Candidates follow *Plan 1*, writing a thesis approved by representatives of the Extension Service of the United States Department of Agriculture. Six credit hours of work, in addition to the thesis, are devoted to agricultural extension education, by special arrangement with the Extension Service of the United States Department of Agriculture. The remainder of the program is planned in accordance with the interests and needs of the candidate and usually includes courses in Supervision, Adult Education, and Secondary Education. Courses in Administration, Curriculum, Evaluation, Group Leadership, Guidance, Personnel Psychology, Research, Speech, and Statistics may also be chosen.

Elementary Education

Programs provide for three fields of specialization in elementary education: Early Childhood Education, The Intermediate Grades, and Elementary School Administration. In addition to graduate courses in these fields programs may include courses in Child Growth and Devel-

opment, Children's Literature, Curriculum, Evaluation, History of Education, Mental Hygiene, Philosophy of Education, Reading, Research, and Speech.

Employee Training

Programs for those interested in the training of employees in business, industry, and government normally include courses in Employee Training and Adult Education. Additional courses are chosen from Audio-visual Education, Curriculum, Guidance, Mental Hygiene, Personnel Psychology, Philosophy of Education, Public Relations, and Techniques of Counseling.

Guidance

Programs for those especially interested in guidance usually include courses in Educational and Vocational Guidance, Techniques of Counseling, Guidance in Secondary Schools, and Occupational and Educational Information. Additional courses frequently chosen include Adult Education, Curriculum, Employee Training, Evaluation, Individual Psychological Testing, Personnel Psychology, Philosophy of Education, Psychological Tests, Secondary Education, and Test Construction.

Physical Education

Programs of candidates who have had undergraduate training in Physical Education may include twelve credit hours of work in Health Education, Physical Education, and Recreation. Four graduate courses: *Problems in Physical Education*, *Problems in Health Education*, *Evaluation in Physical Education*, and *Physical Education for the Atypical*, are offered, two each year in alternate years. Certain undergraduate courses may also be taken for graduate credit. These are available in the areas of Camping, Dance, Physical Education, and Recreation.

As a rule these programs include six credit hours of work in Secondary Education. Additional courses are chosen from Audio-visual Education, Curriculum, Extra-classroom Activities, Guidance, Philosophy of Education, Public Relations, and Supervision.

If *Plan 1* is followed the thesis problem may be from the field of Physical Education.

Secondary Education

Those who desire additional teaching-field preparation may combine advanced subject-matter courses in an academic field with professional courses. Programs usually include six credit hours of work in Secondary Education with additional courses chosen from Audio-visual Education, Curriculum, Extra-classroom Activities, Guidance in Secondary Schools, Philosophy of Education, Research, and Vocational Education.

Programs for those interested in secondary school administration normally include courses in General Administration, Supervision, and Secondary School Management. Additional courses may be chosen from Curriculum, Guidance, Philosophy of Education, Public Relations, Research, School Law, School Plant Planning, and Secondary Education.

ADMISSION

To be admitted to candidacy for the degree of Master of Arts in Education the applicant must: (1) hold a Bachelor's degree from an accredited institution; (2) have an undergraduate quality-point index of 2.50 or above (C + average); (3) have demonstrated a genuine interest in teaching; (4) be in possession of personality traits that give promise of better-than-average success as a teacher.

To be admitted to candidacy in programs designed to prepare for service in guidance and administration two years of successful teaching experience are prerequisite.

PROGRAM LEADING TO THE DEGREE OF DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education cannot be stated in credit hours, but they consist in general of at least two full years of work beyond the degree of Master of Arts in Education or the equivalent. The programs of study are designed to prepare students for administrative or supervisory positions, the teaching of education in normal schools or colleges, the teaching of an academic subject in schools or colleges, or for specialized types of educational service. The work is given a practical rather than a theoretical bent, and emphasizes the mastery and application of subject matter, both in the study requirements and in the dissertation. Special emphasis is placed upon the professional success of the candidate.

The candidate's program of study depends for the most part upon his previous educational background and his professional objective. Opportunities are provided for study leading to the following professional objectives:

School Superintendent
Secondary School Principal
Supervisor
Director of Guidance

Director of Curriculum Development
Professor of Education
Specialist in Educational Research

QUALIFICATIONS OF THE APPLICANT

The candidate for the degree of Doctor of Education must have completed (1) graduate work in fields prerequisite to his objective, equivalent to that required for the degree of Master of Arts in Education in The George Washington University, and (2) at least three years of successful educational experience.

ADMISSION TO CANDIDACY

To be admitted to candidacy for the degree the applicant must be accepted by the Faculty of the School of Education on the basis of an examination conducted by a committee appointed by the Dean. This examination will usually include the following: (1) a written examination involving problems related to the applicant's background; (2) a scholastic-aptitude test; (3) an oral examination.

CONSULTATIVE COMMITTEE

If the applicant is accepted as a candidate, his consultative committee, in cooperation with the candidate, will (1) determine the candidate's fields of study, in each of which the candidate must pass a written

examination at least eight months before he presents himself for the degree; (2) formulate a list of course requirements and of readings that will assist him in preparing for these examinations; and (3) designate the tools of investigation that will be needed by the candidate in the prosecution of his study. These tools may include one foreign language, or more, statistical methods, historical criticism, or any others considered essential by the committee. An examination in the tools designated must be passed by the candidate before he takes his comprehensive examination.

THE DISSERTATION

When the candidate has satisfied the requirements of his consultative committee, the committee is dissolved. A member of the faculty, in whose field the topic of the dissertation falls, is then appointed to serve as the candidate's adviser on his dissertation and in his field of specialization, and to recommend him to the Dean for the final oral examination when, in his judgment, the candidate's dissertation is acceptable.

Not later than the date specified in the University calendar the candidate shall submit to the Dean of the School of Education four copies of his dissertation—one typewritten original and three legible and complete carbon copies, on official thesis paper—and also a typewritten summary of the dissertation consisting of not more than 2,500 words. Requirements regarding the form of the dissertation are stated in the general catalogue and additional information will be supplied by the Dean.

The successful candidate is required, at the time of the acceptance of the dissertation, to pay a fee to cover the expense of printing the summary.

THE FINAL EXAMINATION

At least three weeks before the degree is to be conferred the candidate must pass an oral examination on his dissertation and on his field of specialization before a committee of the Faculty appointed by the Dean, supplemented by two experts from outside the University appointed by the President. This examination is open to the public and all are privileged to question the candidate. The Dean, or a member of the Faculty designated by him, will preside at this examination.

READING CLINIC

To help children and adults with reading difficulties, the School of Education operates a diagnostic reading clinic. Children may be referred by principals, teachers, or parents. Adults may apply by telephone.

To arrange for a clinical examination of reading status, address The George Washington University Reading Clinic, 720 Twenty-second Street, NW., or telephone NAtional 5200, Extension 451, for an appointment. The Clinic is open for appointments Monday, Wednesday, and Friday, from 9:00 A.M. to 12:00 noon.

A complete diagnostic examination usually requires three sittings. When completed, a written report is given and a conference arranged at which disabilities are discussed in detail and suggestions for corrective work are outlined. The fee is \$20.00.

FEES AND FINANCIAL REGULATIONS

By authorization of the Board of Trustees, the following fees have been adopted:

TUITION FEES

For each credit hour for which the student registers (except work taken by a candidate for a Doctor's degree).....	\$12.00
For the degree of Doctor of Education	
For work leading to and including the general examination.....	360.00
For work leading to and including the final examination.....	360.00

ADDITIONAL COURSE FEES

In certain courses additional fees, such as laboratory and material fees, are charged as indicated in the course descriptions. These fees are charged by the term and, unless otherwise indicated, may be defrayed in three payments when the tuition is paid in this manner. Breakage of apparatus is charged against the individual student. When breakage is in excess of the normal amount provided for in the laboratory fee the individual student will be required to pay such additional charges as are determined by the department concerned.

GRADUATION FEE	20.00
FEE FOR BINDING MASTER'S THESIS.....	4.00
FEE FOR PRINTING AND FILING SUMMARY OF DOCTORAL DISSERTATION..	50.00

SPECIAL FEES

Application fee, charged all applicants for admission, non-refundable	3.00
Late-registration fee, charged each student who fails to register within the designated period.....	5.00
Withdrawal fee, charged each student who preregisters and withdraws prior to the regular registration.....	5.00
Service fee, charged each student for late payment of tuition (see "Payment of Fees")	1.00
Reinstatement fee, charged each student who is reinstated after suspension for delinquency in fees.....	5.00
Residence fee, charged each student wishing to maintain "in residence" status during any term of absence from the University..	12.00
For special physical examination.....	2.00
For examinations to qualify for advanced standing and for each special examination	5.00
For diagnostic reading clinic.....	20.00
Laboratory checkout fee, charged all students in chemistry and pharmacy courses who fail to check out of the laboratory by the time set by the instructor.....	2.00

Registration in the University entitles each student to the following University privileges: (1) the issuance of three certified transcripts of record, if and when desired; (2) the services of the Employment Office; (3) the use of University library facilities, except as otherwise designed.

nated; (4) gymnasium privileges; (5) admission to all athletic contests, unless otherwise specified; (6) subscription to the *University Hatchet*, the student newspaper; (7) admission to University debates; (8) medical attention and hospital services as described in the General Catalogue. These privileges, however, with the exception of the issuance of transcripts, terminate, and a student is no longer in residence, when he withdraws or is dismissed from the University.

PAYMENT OF FEES

All fees are payable at the Office of the Cashier, 725 Twenty-first Street, NW. No student is permitted to complete registration or to attend classes until all fees are paid. Fees for each term are due and payable in advance at the time of registration.

In exceptional cases, subject to the approval of the Comptroller, the student may sign a contract for term charges, except for fees payable in advance, permitting payments as follows:

Fall Term.—One third at the time of registration; one third on November 3; one third on December 3.

Winter Term.—One third at the time of registration; one third on March 3; one third on April 3.

A student who fails to meet payments when due, but who pays his fees on or before the tenth day of the month in which payment is due, is charged a service fee of \$1. A student who fails to meet payments by the tenth day of the month in which payment is due will be automatically suspended and may not attend classes until he has been officially reinstated and has paid all accrued fees and a reinstatement fee of \$5.

A suspended student may not be reinstated for the term after two weeks from the date of suspension. Applications for reinstatement are to be made to the dean.

An auditor pays all fees chargeable to the student registered for credit except the late-registration fee.

WITHDRAWALS AND REFUNDS

Application for withdrawal from the University or for change in class schedule must be made in person or in writing to the dean. Notification to an instructor is not an acceptable notice.

In authorized withdrawals and changes in schedules, financial adjustments will be made as follows:

Fall Term.—Withdrawal dated on or before October 31, cancellation of two-thirds of tuition charges; withdrawal dated on or before November 30, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to November 30.

Winter Term.—Withdrawal dated on or before February 28, cancellation of two-thirds of tuition charges; withdrawal dated on or before March 31, cancellation of one-third of tuition charges. No refund or reduction will be allowed on a withdrawal dated subsequent to March 31.

In no case will a refund be made of the first third of the total tuition charges unless the registration is in advance and the course is dropped before the regular registration day. In this case a withdrawal fee of \$5 is charged and tuition fees refunded. In no case will tuition be reduced or refunded because of nonattendance upon classes.

Payment applies only to the term for which a registration charge is incurred and in no case will this payment be credited to another term.

Any student in chemistry who fails to check out of the laboratory on or before the date set by the instructor, unless excused by the instructor, will be charged a checkout fee in the amount of \$2. A student who drops a course before the end of the term must check out of the laboratory at the next regular laboratory period.

Authorization to withdraw and certification for work done will not be given a student who has not a clear financial record.

The grade of *FW* (failing) will be given in a course dropped without the approval of the dean.

All charges for courses dropped without the approval of the dean must be met by the student. Reporting the dropping of a course to an instructor does not effect its discontinuance.

COURSES OF INSTRUCTION

EXPLANATION OF COURSE NUMBERS

An odd number preceding the name of the course indicates that the course is offered in the fall term; and an even number, that it is offered in the winter term. The letter "x" following an odd course number (e.g. 295x) indicates that the course, normally offered in the fall term, is given in the winter term. The letter "x" following an even course number indicates that the course, normally offered in the winter term, is given in the fall term.

First-group courses.—Courses numbered from 1 to 100 are planned for students in the freshman and sophomore years. With the approval of the adviser and the dean, they may also be taken by juniors and seniors. In certain instances, they may be taken by graduate students to make up undergraduate deficiencies or as prerequisite to advanced courses, but they may not be credited toward a higher degree.

Second-group courses.—Courses numbered from 101 to 200 are planned for students in the junior and senior years. They may be credited toward higher degrees only when registration for graduate credit has been approved at the beginning of the course by the Dean of the School of Education and by the officer of instruction concerned, and when the completion of additional work has been certified by the officer of instruction.

Third-group courses.—Courses numbered from 201 to 300 are planned primarily for graduate students. They are open, with the approval of the officer of instruction to qualified seniors; they are not open to Junior College students or other undergraduates.

INDICATION OF THE AMOUNT OF CREDIT

The number of credit hours given for the satisfactory completion of a course is indicated in parentheses after the name of the course. Thus, a year course giving three hours of credit each term is marked (3-3), and a term course giving three hours of credit is marked (3).

DEPARTMENT OF EDUCATION

Courses offered by the Department of Education are of two types: those designed for the preservice education of candidates and those planned for the inservice education of teachers.

Preservice courses devote two fifty-minute periods a week to lecture and discussion supplemented by a minimum of two hours a week of related field work. A clinical approach to the study of educational

problems is used, lectures and discussions revolving around observed practices.

Inservice courses usually meet only once a week for a two-hour period. Class work is supplemented by extensive reading assignments, the preparation of reports, and field work. A student enrolled in one of these courses should plan to devote not less than seven hours a week, exclusive of class time, to the work of the course.

Ample opportunity is provided to study teaching or administrative problems of special interest. To enable students to consult with instructors regarding individual problems, a conference hour is scheduled immediately before or after the class period.

Only the courses designed to provide professional information and skills are listed below. For courses needed for general education or teaching field preparation, see the general catalogue. In addition to courses offered in the Department of Education a number of professional courses for teachers are offered in the departments of Psychology, Speech, and Statistics. These are listed below together with courses offered by the Department of Education.

The exact hour at which classes will be held is stated only for the fall term of 1949-50. Class hours for courses offered in a later term will be found in the Schedule of Classes for that term.

FIRST GROUP

Psychology 22 *Introduction to Educational Psychology* (3)

J. T. Wilson

Consideration of individual and group differences, adjustments, and the psychology of learning in relation to education and training. (Also offered 1949 summer term.)

Psychology 22x—same as Psychology 22, but offered fall term. Mon. and Wed., 5:45 to 7:00 P.M.

Psychology 29 *Child Psychology* (3)

Phillips

A genetic approach to the study of the child. Mon. and Wed., 7:10-8:25 P.M. (Also offered 1949 summer term.)

Psychology 29x—same as Psychology 29, but offered winter term.

Statistics 53 *Introduction to Statistics in Psychology and Education* (3)

Weida and Staff

Sources of data, tabulation, charts and graphs, averages, dispersion, quartiles and percentiles, raw scores and derived scores, profiles, norms and their use, frequency distributions, intelligence and other quotients, reliability and validity of tests, normal curve, correlation, elementary sampling, statistical error, limitations of statistics. Prerequisite: one entrance unit in algebra. Laboratory fee, \$5. Lecture—section A: Tues. and Thurs., 10:10 A.M.; section B: Mon. and Wed., 7:10 P.M.; laboratory—section M: Mon., 4:10 to 5:50 P.M.; section N: Tues., 4:10 to 5:50 P.M.; section P: Thurs., 4:10 to 5:50 P.M.; section Q: Wed., 8:10 to 9:50 P.M.

Statistics 53x—same as Statistics 53, but offered winter term.

SECOND GROUP

Statistics 104 *Statistics in Psychology and Education* (3) Weida
Advanced study of correlation and frequency analysis, sampling theory, factor analysis, and applications to specific problems utilizing case method of study insofar as possible. Original work is required of each student. Prerequisite: Statistics 53. Laboratory fee, \$5.

Education 109-10 *Learning and Teaching* (3-3) Ruffner
For the general student as well as the prospective teacher. Fall term: nature of learning and teaching approached through the study of actual classroom situations. Winter term: the principles and practices of good teaching. Section A: Wed. and Fri., 10:10 A.M.; section B: Wed. and Fri., 6:10 P.M.; field work (2 hours) to be arranged (Also offered 1949 summer term.)

Education 115 *Elementary School Classroom Procedures* (3) Walker, Winn
Determination of children's needs and interests, providing for individual differences, evaluation of classroom practices. Summer term 1949.

Education 121-22 *Society and the School* Jarman, H. M. Wilson
(3-3)
For the general student as well as the prospective teacher. Fall term: the local, national, and international roles of education; cooperation of the school with other community agencies. Winter term: organization and operation of schools; principles and functions. Section A: Tues. and Thurs., 10:10 A.M.; section B: Tues. and Thurs., 6:10 P.M.; field work (2 hours) to be arranged. (Also offered 1949 summer term.)

Psychology 121 *Educational Psychology* (3) J. T. Wilson
Advanced course in Educational Psychology. Open each term on the individual study plan to a limited number of students. Time to be arranged.

Education 123-24 *Reading Problems* (3-3) Hilder
A clinical approach to reading difficulties on elementary and secondary school levels. Sat., 9:10 to 11:00 A.M.

Education 125 *Corrective Procedures in Reading* (3) Hilder
Study of levels, needs, materials, and corrective methods. Demonstrations and observations with clinic cases. Summer term 1949.

Psychology 129 *Introduction to Educational and Vocational Guidance* (3) Dreese
Tues. and Thurs., 6:10 to 7:25 P.M.

Education 131 *Common Teaching Skills* (3) Root
Course, unit, and lesson planning; homeroom procedures; discipline, clerical routines; activity sponsorship; committee procedures; public relations duties. Mon., Wed., and Fri., 5:10 P.M.; field work (2 hours) to be arranged.

Psychology 131 *Psychological Tests* (3)

Hunt

A survey of psychological tests and their more common uses in business, industry, government, law, medicine, and education. Material fee, \$2.25 Mon., Wed., and Fri., 10:10 A.M. (Also offered 1949 summer term.)

Psychology 131x—same as Psychology 131, but offered winter term.

Education 133-34 *Observation and Practice Teaching* (3-3)

Root

Education 134, practice-teaching fee, \$8 a credit hour. Admission by permission of the instructor. Time to be arranged individually.

Psychology 144 *Personnel Psychology* (3)

Mosel

The applications of psychology to personnel work in education, business, industry, and government. (Also offered 1949 summer term.)

Psychology 144x—same as Psychology 144 but offered fall term. Tues. and Thurs., 6:10 to 7:25 P.M.

SPECIAL METHODS COURSES

To be elected in the senior year after substantial preparation in the teaching fields concerned. Course requirements and hours of credit vary with license requirements. Practices of successful teachers are studied and actual teaching content as found in current texts and courses of study is reviewed.

Education 136 *Teaching English* (2 to 4)

Lumsden

Tues., 7:35 to 9:35 P.M.; field work (2 hours) to be arranged.

Education 138 *Teaching Social Studies* (2 to 4)

Root

Mon., 7:10 to 9:10 P.M.; field work (2 hours) to be arranged.

Education 140 *Teaching Mathematics* (2)

Weida

Time to be arranged.

Education 141-42 *Teaching Art* (3-3)

Goodwin

(Not offered in 1949-50.)

Education 144 *Teaching Science* (2 to 4)

Rumbough

Wed., 5:10 to 7:00 P.M.; field work (2 hours) to be arranged.

Education 146 *Teaching Foreign Languages* (2 to 4)

Doyle, Keating

Time to be arranged.

Education 148 *Teaching Home Economics* (2)

Kirkpatrick

Time to be arranged.

Education 150 *Teaching Secretarial Studies* (2)

Veon

Time to be arranged.

Speech 175-76 *Speech Correction* (3-3) Pettit
A study of the causes of the disorders of speech with emphasis on methods in diagnosis and treatment of defective speech. Prerequisite: Speech 11 and 101, or permission of the instructor. Recording fee: \$3 a term. 175: Mon., Wed., and Fri., 2:10 P.M.

THIRD GROUP

Education 205-6 *The Curriculum* (3-3) Mehrens
General principles and practices of curricular development; modern trends and procedures of improvement; group consideration of student problems. Wed., 7:10 to 9:10 P.M.

Education 209-10 *Child Growth and Development* Eaves
(3-3)
Basic factors in human growth and development and their relation to learning and teaching. Related practical experience in studying children with class analyses of procedures and results. Sat., 11:10 A.M. to 1:00 P.M.

Education 211 *Evaluation in Education* (3) Ruffner
Nature, functions, and techniques.
Summer term 1949.

Education 213-14 *History of Education* (3-3) Jarman
Fall term: the European backgrounds of American education. Winter term: the evolution of the American school system. Tues., 7:35 to 9:35 P.M.

Education 215-16 *Seminar: Great Teachers in American Education* French
(3-3)
A study of great teachers from the colonial period to the present. An attempt will be made to find out the qualities and characteristics that have made these teachers great. Thurs., 7:35 to 9:35 P.M.

Education 217-18 *Contemporary Problems in Education* Jarman
(3-3)
Fall term: designed to help students formulate a personal philosophy of education. Winter term: a study of the forces that shape the policies and offerings of the school. Mon., 7:10 to 9:10 P.M. (Also offered 1949 summer term—Education 217 (3).)

Education 219 *Elementary Education* (3) Eaves
Review of recent literature and practices; particular attention to *Education for All American Children*, the recent report of the Educational Policies Commission.
Summer term 1949.

Education 221-22 *Seminar: Early Childhood Education* Little
(3-3)
Fall term: home backgrounds, nursery school and kindergarten situations.
Winter term: primary grades. (Not offered in 1949-50.)

Psychology 223 Seminar: Learning (3)

J. T. Wilson

Covers theories of learning. Tues., 7:35 to 9:35 P.M. (Also offered 1949 summer term.)

Education 224 Newer Developments in Children's Literature (3)

Walker

Exploring and evaluating the newer books for children and the children's classics; understanding the contribution of literature in child development; appreciating children's original expressions; surveying resources in the field. (Not offered in 1949-50.)

Education 225-26 Seminar: Elementary Education in the Intermediate Grades (3-3)

Little

A comprehensive study of the major problems of the intermediate grades. Fri., 7:10 to 9:10 P.M.

Psychology 225 Seminar: Mental Hygiene (3)

Phillips

A study of problems in the field of mental health and prevention of maladjustments and mental disease. Sat., 10:10 to 12:00 A.M. (Also offered 1949 summer term.)

Education 227-28 Elementary Education (3-3)

Fall term: discussion of fundamental issues in the light of their historical development, parallel situations in other countries, and current proposed solutions. Winter term: relationships of developments in each instructional area to the fundamental issues. Sat., 9:10 to 11:00 A.M.

Psychology 227x Seminar: Educational and Vocational Guidance (3)

Dreese

A study of the techniques of educational and vocational guidance and the application of these procedures in various types of guidance agencies. Prerequisite: Educational or psychological measurements. (Also offered 1949 summer term.)

Psychology 228 Seminar: Techniques of Counseling (3)

Dreese

A detailed study of counseling techniques and the types of counseling problems likely to confront teachers, employee counselors, vocational counselors, and veteran's advisers. Prerequisite: Psychology 227 or the equivalent. (Also offered 1949 summer term.)

Psychology 228x—same as Psychology 228, but offered fall term. Tues., 3:10 to 5:00 P.M.

Psychology 229 Seminar: Occupational and Educational Information (3)

Davis

Designed to acquaint vocational and educational counselors with the basic occupational and educational information necessary in counseling. Sources of data and techniques of collecting, analyzing, and disseminating for purposes of guidance. Wed., 8:10 to 10:00 P.M.

Education 230 Administration of Elementary Education (3)

The principal as a school and community leader. Problems of supervision, course of study development, parent relations. (Also offered 1949 summer term—Tuttle.)

Education 231 *Secondary School Classroom Procedures* (3) Bish, Root

Survey of current classroom practices with particular attention to teaching aids; reviews of recent literature. Tues., 7:35 to 9:35 P.M. (Also offered in 1949 summer term.)

Psychology 231 *Test Construction* (3) Hunt

The principles underlying test construction; statistical techniques in the construction, evaluation, and standardization of psychological, educational, and vocational tests. Prerequisite: a course in tests and measurement and a course in statistics. Fri., 6:10 to 8:00 P.M. (Also offered 1949 summer term.)

Psychology 232 *Research: Test Construction* (3) Hunt

Individual projects in construction and evaluation of psychological, educational, or vocational tests. Prerequisite: Psychology 231.

Education 233 *Audio-visual Education* (3) Luecke

Selection and use of audio-visual aids; measurement of materials and equipment. Material fee, \$5. Lecture (2 hours), laboratory (2 hours), Sat., 9:10 A.M. to 1:00 P.M. (Also offered 1949 summer term—Johnson.)

Education 233x—same as Education 233, but offered winter term.

Psychology 233 *Individual Psychological Testing* (3) Phillips

Instruction and practice in giving the Binet Test, Wechsler-Bellevue Test, and other individual psychological tests. Prerequisite: an elementary course in tests and measurements. Material fee, \$2.25. Fri., 1:10 to 3:00 P.M.

Psychology 233x—same as Psychology 233, but offered winter term.

Education 247-48 *Vocational Education* (3-3)

Major issues, problems, and trends. Tues., 7:35 to 9:35 P.M.

Education 251 *Guidance in Secondary Schools* (3) Cromwell

Scope; needs; organization of the program; services to students, the instructional staff, and the administration; personnel needed for the program. Fri., 7:10 to 9:10 P.M. (Also offered 1949 summer term.)

Education 254 *The Junior High School* (3) Bish, Root

Purposes; organization; core programs; guidance; developing course of study; extra-classroom activities. Tues., 7:35 to 9:35 P.M. (Also offered 1949 summer term.)

Education 255-56 *Secondary Education* (3-3) Bish, Root

Fall term: review of recent literature and practices; particular attention to *Education for All American Youth*, the recent report of the Educational Policies Commission, and *General Education in a Free Society*, Harvard Committee. Winter term: current problems in each of the subject-matter fields. Sat., 11:10 A.M. to 1:00 P.M. (Also offered 1949 summer term.)

Education 259-60 *Secondary School Management* (3-3) Fox

Management planning, execution, and control; criteria of good management; construction of the master schedule; leadership problems incident to the development of new policies and programs. Wed., 7:10 to 9:10 P.M.

Education 263-64 *Employee Training* (3-3)

Organization and administration of employee-training programs in accordance with operating needs; orientation, supervisory, and skills training; coordination of training with other personnel functions; evaluation of training. Field work is required. Thurs., 7:35 to 9:35 P.M. Root

Education 271 *The American School System* (3)

Organization of public education; sources of school revenue; influences of national and state agencies; local administrative units; the chief legal controls; criteria of building administration; responsibilities of teachers. Sat., 9:10 to 11:00 A.M. (Also offered 1949 summer term—Booker.) Fox

Education 272 *The Teacher and School Supervision* (3)

Nature, organization, human relationships, and techniques. Sat., 9:10 to 11:00 A.M. (Also offered 1949 summer term.) Fox

Education 273-74 *Administration of a School System* (3-3)

A comprehensive survey of the management problems of a beginning superintendent; does not anticipate previous experience as a superintendent. (Not offered in 1949-50.)

Education 275 *School Finance* (3)

Educational financial theory, practice, and control, including methods of financing. Fri., 7:10 to 9:10 P.M. Alves

Education 276 *Seminar: Public Relations in School Administration* (3)

Purposes; gathering materials; disseminating agencies; publicity media; public participation in policy-making. (Not offered in 1949-50.) Fox

Education 278 *School Law* (3)

Sources and scope of school law; legal rights and responsibilities of teachers, pupils, and taxpayers. Other legal problems of major interest to the group. Fri., 7:10 to 9:10 P.M. Remmlein

Education 279-80 *Adult Education* (3-3)

Fall term: nature, extent, and organization of programs in adult education. Winter term: interest, needs, and capacities of adult learners; techniques employed in motivating and directing learning activities. Mon., 7:10 to 9:10 P.M. (Also offered 1949 summer term—Education 280 (3).) Ruffner

Education 285 *Extra-classroom Activities* (3)

Home room functions; student self-government, clubs, assemblies, school publications. Summer term 1949. Root

Education 287-88 *Clinical Study of Reading Problems* (3-3)

For advanced students. Diagnostic work under supervision in the Reading Clinic. Admission by permission of the instructor. Sat., 11:10 A.M. to 1:00 P.M. Hilder

- Education 291 *Planning the School Plant* (3) Hamon
Selection of sites; evaluation of existing buildings; utilization of present facilities; adaptation to curricular needs; building, operation, and maintenance problems. Sat., 11:10 A.M. to 1:00 P.M.
- Education 293-94 *Research* (3-3) The Staff
Individual research under the guidance of a member of the staff. Program and conferences arranged with an instructor.
- Education 295 *Educational Research Methods and Procedures* (3) Fox
Required of all Master of Arts candidates following Plan 2. Knowledge of elementary statistics required. Tues. and Thurs., 6:10 P.M. (Also offered 1949 summer term.)
Education 295x—same as Education 295, but offered winter term. Fri., 5:10 to 7:00 P.M.
- Education 297 *Reading in Education* (1) The Staff
To assist those preparing for the comprehensive examination. No credit toward degree requirements. Wed., 5:10 P.M.
Education 297x—same as Education 297, but offered winter term. Wed., 5:10 P.M.
- Education 299-300 *Thesis* (3-3) The Staff
Required of all Master of Arts candidates following Plan 1. Time to be arranged. (Also offered 1949 summer term.)

DEPARTMENT OF PHYSICAL EDUCATION FOR MEN

FIRST GROUP

- 18 *Kinesiology* (3) Tate
A study of the anatomical mechanism of movement, analysis of the action of muscles in physical education activities. Open to both men and women. Prerequisite: an approved course in anatomy.
- 42 *Aquatic Sports, Swimming, and Lifesaving* (2) Hanken
Physical Education 42x—same as Physical Education 42, but offered fall term. Fri., 1:00 to 3:00 P.M.
- 43-44 *Techniques of Physical Education Motor Activities for Freshman* (2-2) The Staff
A critical survey of the fundamental skills, rules, organization, appreciations, and attitudes in these activities. Tues. and Thurs., 1:00 to 3:00 P.M.
- 45-46 *Techniques of Physical Education Motor Activities for Sophomores* (2-2) The Staff
Tues. and Thurs., 8:10 to 10:00 A.M.
- 47 *Introduction to Physical Education* (2) Myers
An orientation course presenting in elementary form the problems of physical education, vocational analysis, historical implication, scientific foundations, and scope of field. Mon. and Wed., 10:10 A.M.

- 48 *Introduction to Recreation* (2) Myers
A course presenting in elementary form the various phases of this field; the role of recreation in modern living; current practices in community recreation work; standards of training, experience, and salary; types of leadership needed. Open to both men and women.
- 49 *Human Anatomy* (3) Tate
The structure of the human body. Basic course for physical education majors. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Mon., Wed., and Fri., 9:10 A.M.
- 58 *First Aid and Care of Athletic Injuries* (2) Myers
Prevention and emergency care of injuries of all types, with special reference to first aid, bandaging, and massage. A practical course. Prerequisite: Physical Education 49; Biology 1-2 or Zoology 1-2. Physical Education 58x—same as Physical Education 58, but offered fall term. Mon. and Wed., 1:10 P.M.

SECOND GROUP

- 102 *Play in Education and Recreation* (3) Atwell
The significance of play in human growth and development; play activities for elementary schools and recreation programs. Open to both men and women. 1949-50 and alternate years.
- 103 *History and Principles of Physical Education* (3) Myers
The interpretation of objectives of physical education activities under leadership, in terms of development, adjustment, and standards. Mon. and Wed., 1:10 to 2:30 P.M.
- 107 *Introduction to Methods in Physical Education* Krupa
(2)
Essential facts of education, psychology, and sociology, with special reference to the problem of method in physical education. Prerequisite: Biology 1-2 or Zoology 1-2; Psychology 1 and 22; Sociology 1 and 2. Mon. and Wed., 1:10 P.M.
- 109-10 *Leadership Organization in the Intramural Program* (2-2) Krupa
Principles of administration, organization, and supervision of intramural activities in the physical-education program of the junior high schools, senior high schools, and colleges. Prerequisite: Physical Education 47 and 107. Tues. and Thurs., 1:10 P.M.
- 113-14 *Directed Teaching in Physical Education Activities* (2-2) The Staff
Practical demonstration of teaching procedures in adapting activities to the various problems in the secondary school organization. Prerequisite: a minimum of twelve credit hours in physical education; Physical Education 107. Time to be arranged.

- 115-16 *Methods in Major Sport Activities* (2-2) The Staff
Teaching procedures in adapting major sport activities to the several age-period groups and to individual differences existing in the secondary school organization. Prerequisite: demonstration of a fair degree of skill in these various activities; Physical Education 107. Mon. and Wed., 12:10 P.M.
- 117-18 *Methods in Minor Sport Activities* (2-2) The Staff
The scientific procedures in adapting these various activities to a secondary school physical-education program. Prerequisite: demonstration of a fair degree of skill in these various activities; Physical Education 107. Mon. and Wed., 1:00 to 3:00 P.M.
- 121 *School and Community Health Programs* (3) Dennis
Health services, healthful environment, health instruction, sources of material for general health knowledge. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Tues. and Thurs., 11:10 A.M. to 12:25 P.M.
- 122 *Methods and Materials of Health Education* (3) Dennis
Organization and presentation of health materials for each age level. Prerequisite: Biology 1-2 or Zoology 1-2. Open to both men and women. 1949-50 and alternate years.
- 123 *Psychological Analysis of Activities* (2) Krupa
A detailed analysis of the mental processes during participation in physical-education activities. Prerequisite: Psychology 1 and 22. (Not offered in 1949-50.)
- 124 *Applied Anatomy and Physiology* (3) Myers
The anatomical and physiological effects of physical-education activity. Prerequisite: Physical Education 49; Physiology 115; Biology 1-2 or Zoology 1-2.
- 125 *Kinesiology of Sports for the Physically Handicapped* (3) Morgan
Methods employed in the teaching of body mechanics which are adapted to the prevention and correction of physical disabilities. Prerequisite: Physical Education 49 and 124; Biology 1-2 or Zoology 1-2. Wed., 7:10 to 9:10 P.M.
- 131 *Tests and Measurements in Physical Education* (3) Atwell
Critical survey of tests in physical activities; methods of test construction; elementary statistics. Open to both men and women. Mon., Wed., and Fri., 11:10 A.M.
- 132 *Camp Leadership* (1) Atwell
Survey course in camp counseling. Open to both men and women.
- 133-34 *Observation and Practice Teaching* (3-3) Myers
Required of every major student in the junior or senior year. Assignments are made to schools in Washington, D. C., and vicinity. Prerequisite: Education 131; Physical Education 113-14. Practice teaching fee, \$8 a credit hour. Time to be arranged.

138 *Administration and Organization of Physical Education* (3) Myers

The administration of a unified program; a study of physical education plants, athletic fields, and equipment. Prerequisite: Physical Education 47.

151-52 *Group Leadership Activities* (3-3) Foster

Fall term: groups and their significance, group work principles and methods, professional and volunteer leaders, organization and development of programs. Winter term: application to social-recreational activities. 1949-50 and alternate years, Tues., 7:35 to 9:35 P.M.

153-54 *Group Leadership Activities* (3-3) Foster

Fall term: organization and direction of physical recreation programs. Winter term: organization and direction of special recreational activities, such as arts and crafts, dramatics, group singing, and nature walks. 1950-51 and alternate years.

161 *Community Organization for Recreation* (3)

Objectives and needs; urban, rural, county, and district organization; state and federal services; planning, appraisal, and research. 1950-51 and alternate years.

162 *Administration and Supervision of Recreation* (3)

Training of professional and volunteer recreation workers; planning programs for home, neighborhood, district, city, county, and region; winning public sentiment to recreation needs. 1950-51 and alternate years.

THIRD GROUP

211 *Problems in Physical Education* (3)

For experienced teachers. Organization, supervision, and curriculum problems growing out of current issues; program planning; policies; competition. 1950-51 and alternate years.

230 *Problems in Health Education* (3)

Health needs; policies and program planning; use of community resources; promising practices in the field. 1950-51 and alternate years.

231 *Evaluation in Physical Education* (3) Phillips

Planning the evaluation program; review of outcomes; analysis of tests and standards; administration and interpretation of tests; guidance. Sat., 9:10 to 11:00 A.M.

240 *Physical Education for the Atypical* (3) Morgan

Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis.

PHYSICAL EDUCATION FOR WOMEN

FIRST GROUP

15-16 *Methods of Teaching Physical Education Activities (2-2)* The Staff

(a) Team Sports: teaching procedures, organization and equipment;
 (b) Recreational Dance: methods and materials for teaching folk, square, and social dance. Locker and towel fee,* \$2 a term. Wed., 1:00 to 4:00 P.M. Other hours to be arranged.

18 *Kinesiology (3)* Tate

A study of the anatomical mechanism of movement, analysis of the action of the muscles in physical education activities. Open to both men and women. Prerequisite: an approved course in anatomy.

48 *Introduction to Recreation (2)* Myers

A course presenting in elementary form the various phases of this field; the role of recreation in modern living; current practices in community recreation work; standards of training, experience, and salary; types of leadership needed. Open to both men and women.

49 *Human Anatomy (3)* Tate

The structure of the human body. Basic course for physical education majors. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Mon., Wed., and Fri., 9:10 A.M.

SECOND GROUP

102 *Play in Education and Recreation (3)* Atwell

The significance of play in human growth and development, play activities for elementary schools and recreation programs. Open to both men and women. 1949-50 and alternate years.

103 *History and Principles of Physical Education* Atwell

1950-51 and alternate years.

105-6 *Therapeutic and Remedial Physical Education and Physical Examinations (3-3)* Lawrence

Cause and correction of faulty body mechanics and other abnormal physical conditions, physical-examination methods used in diagnosis of physical defects, program adaptation to special cases. Prerequisite: Biology 1-2 or Zoology 1-2. Mon., Wed., and Fri., 10:10 A.M.

111-12 *Methods of Teaching Physical Education Activities (2-2)* The Staff

(a) Individual and Dual Sports: teaching procedures, organization and equipment; (b) Modern Dance: methods and materials for teaching Modern Dance, dance composition. Locker and towel fee,* \$2 a term. Wed., 1:00 to 4:00 P.M. Other hours to be arranged.

* The locker and towel fee is required for registration in one or more of the activity courses.

- 119-20 *Problems in Teaching Physical Education Activities (2-2)* The Staff
Advanced material for teaching of physical education with opportunity for specialization in sports or in dance. (a) Teaching and officiating in individual, dual, and team sports; (b) Advanced technique, projects in teaching and production in the dance. Locker and towel fee, • \$2 a term. Wed., 1:00 to 4:00 P.M. Other hours to be arranged.
- 121 *School and Community Health Programs (3)* Dennis
Health services, healthful environment, health instruction, sources of material for general health knowledge. Open to both men and women. Prerequisite: Biology 1-2 or Zoology 1-2. Tues. and Thurs., 11:10 A.M. to 12:25 P.M.
- 122 *Methods and Materials of Health Instruction (3)* Dennis
Organization and presentation of health materials for each age level. Prerequisite: Biology 1-2 or Zoology 1-2. Open to both men and women. 1949-50 and alternate years.
- 130 *Clinical work in Therapeutic and Remedial Physical Education (3)* Lawrence
Practice in giving physical examinations, analysis of results, prescription and teaching of corrective exercises; observation in orthopedic clinics in city; first aid and care of athletic injuries, with instruction in bandaging and massage. Prerequisite: Physical Education 18, 49, and 105-6, Biology 1-2 or Zoology 1-2.
- 131 *Tests and Measurements in Physical Education (3)* Atwell
Critical survey of tests in physical activities; methods of test construction; elementary statistics. Open to both men and women. Mon., Wed., and Fri., 11:10 A.M.
- 132 *Camp Leadership (1)* Atwell
Survey course in camp counseling. Open to both men and women.
- 133-34 *Observation and Practice Teaching (3-3)* Atwell
Directed teaching with weekly conferences in junior and senior high schools. Physical Education 134, practice teaching fee, \$8 a credit hour. Time to be arranged.
- 135-36 *Survey of Dance History and Dance Forms (3-3)* Burtner
Primitive, Greek, medieval, pre-classic, romantic, and modern periods. Traditional forms, such as polka, schottische, mazurka, and waltz. Fundamental movement techniques, composition, and discussion. Designed for students interested in art, drama, and dance. 1950-51 and alternate years.

• The locker and towel fee is required for registration in one or more of the activity courses.

- 140 *Administration of Physical Education* (3) Atwell
Organization and administration of physical education in elementary and secondary schools and in colleges. Prerequisite: Physical Education 103. 1950-51 and alternate years.
- 151-52 *Group Leadership Activities* (3-3) Foster
Fall term: groups and their significance, group work principles and methods, professional and volunteer leaders, organization and development of programs. Winter term: application to social-recreational activities. 1949-50 and alternate years, Tues., 7:35 to 9:35 P.M.
- 153-54 *Group Leadership Activities* (3-3) Foster
Fall term: organization and direction of physical recreation programs. Winter term: organization and direction of special recreational activities, such as arts and crafts, dramatics, group singing, and nature walks. 1950-51 and alternate years.
- 161 *Community Organization for Recreation* (3)
Objectives and needs; urban, rural, county, and district organization; state and federal services; planning, appraisal, and research. 1950-51 and alternate years.
- 162 *Administration and Supervision of Recreation*
Training of professional and volunteer recreation workers; planning programs for home, neighborhood, district, city, county, and region; winning public sentiment to recreation needs. (Not offered in 1949-50.)

THIRD GROUP

- 211 *Problems in Physical Education* (3)
For experienced teachers. Organization, supervision, and curriculum problems, growing out of current issues; program planning, policies; competition. 1950-51 and alternate years.
- 220 *Problems in Health Education* (3)
Health needs, policies and program planning, use of community resources, promising practices in the field. 1950-51 and alternate years.
- 231 *Evaluation in Physical Education* (3) Pillips
Planning the evaluation program, review of outcomes, analysis of tests and standards, administration and interpretation of tests, guidance. Sat., 9:10 to 11:00 A.M.
- 240 *Physical Education for the Atypical* Morgan
Adaptations of activities to meet the special needs of students with physical disabilities resulting from such conditions as postural deviations, cardiac irregularities, operations, and poliomyelitis.

SCHEDULE OF EVENING AND SATURDAY CLASSES

FALL TERM 1949-50

Monday Evening 7:10 to 9:10

Education 217 Contemporary Problems in Education
Education 279 Adult Education

Tuesday Evening 7:35 to 9:35

Physical Education 151 Group Leadership Activities
Education 213 History of Education
Psychology 223 Seminar: Learning
Education 231 Secondary School Classroom Procedures
Education 247 Vocational Education

Wednesday Evening 7:10 to 9:10

Physical Education 125 Kinesiology of Sports for the Physically Handicapped
Education 205 The Curriculum
Education 259 Secondary School Management

Wednesday Evening 8:10 to 10:00

Psychology 229 Seminar: Occupational and Educational Information

Thursday Evening 7:35 to 9:35

Education 215 Seminar: Great Teachers in American Education
Education 263 Employee Training

Friday Evening 6:10 to 8:00

Psychology 231 Test Construction

Friday Evening 7:10 to 9:10

Education 225 Seminar: Elementary Education in the Intermediate Grades
Education 251 Guidance in Secondary Schools
Education 275 School Finance

Saturday Morning 9:10 to 11:00

Education 123 Reading Problems
Physical Education 231 Evaluation in Physical Education
Education 227 Elementary Education
Education 233 Audio-visual Education (lecture)
Education 271 The American School System

Saturday Morning 10:10 to 12:00

Psychology 225 Seminar: Mental Hygiene

Saturday Morning 11:00 to 1:00

Education 209 Child Growth and Development
Education 255 Secondary Education
Education 287 Clinical Study of Reading Problems
Education 291 Planning the School Plant

WINTER TERM 1949-50

Monday Evening 7:10 to 9:10

Education 138 Teaching Social Studies
Education 218 Contemporary Problems in Education
Education 280 Adult Education

Tuesday Evening 7:35 to 9:35

- Education 136 Teaching English
- Physical Education 152 Group Leadership Activities
- Education 214 History of Education
- Education 248 Vocational Education
- Education 254 The Junior High School

Wednesday Evening 5:10 to 7:00

- Education 144 Teaching Science

Wednesday Evening 7:10 to 9:10

- Education 206 The Curriculum
- Education 260 Secondary School Management

Thursday Evening 7:35 to 9:35

- Education 216 Seminar: Great Teachers in American Education
- Education 264 Employee Training

Friday Evening 7:10 to 9:10

- Education 226 Seminar: Elementary Education in the Intermediate Grades
- Education 278 School Law

Saturday Morning 9:10 to 11:00

- Education 124 Reading Problems
- Education 228 Elementary Education
- Education 233x Audio-visual Education (lecture)
- Education 272 The Teacher and School Supervision.

Saturday Morning 11:10 to 1:00

- Education 210 Child Growth and Development
- Education 256 Secondary Education
- Education 288 Clinical Study of Reading Problems

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, D. C.

Report of the Comptroller
FOR THE YEAR ENDED
AUGUST 31, 1949

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LETTER OF TRANSMITTAL

October 15, 1949

TO THE PRESIDENT AND THE BOARD OF TRUSTEES
THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, D. C.

GENTLEMEN:

I am submitting herewith the Report of the Comptroller of The George Washington University for the fiscal year ended August 31, 1949. This report is a review of the budget operations for the year and is based on the budget approved by the Board of Trustees of the University.

The accounts of the University are kept and its financial reports set up as far as practicable in conformity with the recommendations of the National Committee on Standard Reports for Institutions of Higher Education. Under that plan the funds of the University are classified in various fund groups, and the accounts and financial statements are set up to segregate clearly the assets and liabilities of each of these groups as indicated in the balance sheet, Exhibit A.

R. G. Rankin & Co. have examined the accounts of the University for the past year, and their certificate is submitted herewith. A condensed summary of the principal facts in the report is presented below and on succeeding pages, followed by detailed Exhibits and Schedules.

Respectfully submitted,
HENRY W. HERZOG
Comptroller

CONDENSED SUMMARY CURRENT FUNDS—UNRESTRICTED

These Funds represent unrestricted assets which are available for immediate use in the current operation of the University.

Operating Income for the Year (Exhibit B and Schedule 1)	6,904,389.74
Operating Expense for the Year (Exhibit B and Schedule 2)	5,957,823.12
Excess of Current Operating Income over Current Operating Expense (Exhibit B)	946,566.62

The latter amount was added to Current Funds Unrestricted Surplus. During the year \$950,729.38 was expended for real estate or capital improvements, and \$43,234.79 was applied to the reduction of Trust Notes Payable. Surplus at the end of the year amounted to \$668,870.85 (Exhibit B).

A Deferred Charge of \$316,264.39 is shown on Exhibit A representing a loss on the operation of the hospital of \$248,317.40 for 1947-48 and \$67,946.99 for 1948-49. This loss is to be recovered from gifts and other income.

The other Deferred Charge shown on Exhibit A represents Hospital Equipment in the amount of \$165,807.13 purchased by the University in excess of the amount paid for from receipts of the Hospital Equipment Fund. This is fully explained on page 9.

Accounts Receivable in the amount of \$643,290.59 include \$470,625.98 due from the Veterans Administration under the "GI Bill of Rights," and \$171,472.82 due the Hospital (Schedule 3).

Scholarships were awarded to students from the following sources: Current Funds Unrestricted, \$19,128.00 (Schedule 2—Page 6); Endowment Income, \$4,718.27 (Schedule 10—Page 3).

CURRENT FUNDS—RESTRICTED

Research grants, investment income, gifts, and agency funds comprise these funds which consist of currently expendable assets, limited as to disposition (Exhibit C and Schedule 10).

During the year restricted gifts and grants for use as specified amounted to \$507,089.31 (page 78). Restricted endowments earned \$82,630.95. Unexpended Restricted and Agency Funds totaled \$244,969.24 (Exhibit C).

LOAN FUNDS

For the assistance of students seeking financial aid, loan funds have been established by the University and other organizations (Schedule 11). Loans are made at a low rate of interest and when repaid the interest is added to the principal of the funds.

During the year, 107 loans were made to students. Loan Funds totaled \$37,518.00 (Exhibit D).

ENDOWMENT FUNDS

The principal of all endowment funds amounted to \$2,896,544.62, an increase of \$108,675.17 (Exhibit E). These funds are represented by assets which, under the terms of wills, deeds of gift, or under the by-laws of the University, must be held in perpetual trust for income-producing purposes. The principal amount and changes during the year of every endowment fund are recorded in Schedule 12. A description of the funds begins on page 82.

"Consolidated Endowment Funds" consisted of ninety-two endowments with a total value of 1,495,441.79 (Schedule 5—Page 2). The assets of these funds are combined to eliminate the possibility of partial or total loss of any fund through the failure of a specific investment, and to avoid temporary suspension of income and the carrying of uninvested small cash balances, and to give equality of treatment to all funds. Unless otherwise restricted by the donors, the assets of all new endowments are added to the assets of the Consolidated Endowment Funds.

Reserves for Protection of Investments were as follows: Consolidated Endowment Funds, \$57,251.35; Scottish Rite Fund, \$59,561.38 (Schedule 12—Page 3).

Earnings of Consolidated Endowment Funds are recorded in one income account and at the end of the year are distributed to the participating funds in the proportion each fund bears to the total of the entire group. The rate of return on the investments of these funds amounted to 4.3931% during the past year and, after deducting 10% as a reserve against losses (Schedule 12—Page 3), was distributed at the rate of 3.9538%.

The Scottish Rite Endowment Fund earned 3.6748% net income on its investments during the year just ended.

Net income of all endowment funds for the year was \$106,402.90 (Schedule 10—Page 3).

Pledges to the School of Medicine Endowment Fund on August 31, 1949, totaled \$142,344.00.

PLANT FUNDS—INVESTED IN PLANT

By virtue of a quitclaim deed dated February 28, 1949, the United States of America, through the Federal Works Administrator, conveyed to the University all of its rights, interest, and title to all of the land in Square 54, bounded by 22nd Street, 1 Street, 23rd Street, and Pennsylvania Avenue, N. W., together with the improvements known as The George Washington University Hospital. As consideration, the University had previously paid to the Government \$548,167.50. The Buildings and Lands Committee of the Board of Trustees appraised the hospital building at \$6,000,000 and the land at \$1,389,564, making the total valuation \$7,389,564. (Schedule 8—Page 1).

Pursuant to the request of the University dated July 12, 1948, filed in accordance with Public Law 796, 80th Congress, approved June 28, 1948, the Housing and Home Finance Administrator relinquished and transferred, without monetary consideration, to the University all contractual rights (including the right to revenues and other proceeds) and all property rights, title and interest of the United States in and with respect to the temporary housing and equipment therein located in Squares 56, 77, and 79, effective September 1, 1948. These housing units have been appraised at \$150,000 (Schedule 8—Page 1), and equipment at \$20,000 (Schedule 9).

The investment in the physical plant of the University is analyzed as follows:

EXHIBITS A AND C, SCHEDULES 8 AND 9	BALANCE AUGUST 31, 1948	ADDITIONS	REDUCTIONS	BALANCE AUGUST 31, 1949
LAND AND BUILDINGS	7,079,900.21	7,882,125.88	.....	14,962,026.09
EQUIPMENT	1,728,893.21	155,439.43	.....	1,884,332.64
TRUST NOTES PAYABLE	350,671.15	.....	43,234.79	307,436.36
NET INVESTMENT IN PLANT	8,458,122.27	8,080,800.10	.....	16,538,922.37

AUDIT CERTIFICATE

October 15, 1949

TO THE PRESIDENT AND THE BOARD OF TRUSTEES
THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, D. C.

We have examined the balance sheet of THE GEORGE WASHINGTON UNIVERSITY as of August 31, 1949, and the related statements of current operating income and expense, current funds surplus, and other fund transactions for the fiscal year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. It was not practicable to confirm receivables from United States Government Agencies, but we have applied other auditing procedures in verification of this asset.

In our opinion, the balance sheet and related statements of current operating income and expense, current funds surplus, and other fund transactions included in the accompanying REPORT OF THE COMPTROLLER OF THE UNIVERSITY, present fairly the financial position of THE GEORGE WASHINGTON UNIVERSITY as of August 31, 1949, and the results of its operations for the fiscal year then ended, in conformity with generally accepted principles of university and college accounting applied on a basis consistent with that of the preceding year, except that a depreciation policy was established during the year under review with respect to the hospital building and equipment, which resulted in a charge of \$150,000 to current operating expense.

R. G. RANKIN & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS

THE GEORGE WASHINGTON UNIVERSITY

BALANCE SHEET

August 31, 1949

ASSETS

CASH.....	327,162.80
ACCOUNTS RECEIVABLE (Schedule 3).....	663,290.59
PREPAID EXPENSE (Schedule 3)...	175,273.67
DEFERRED CHARGES—To be re- covered from gifts and other income (Page 7)	
Hospital Deficit	316,264.39
Hospital Equipment	165,807.11
	<u>1,647,798.67</u>

LIABILITIES

CURRENT FUNDS

UNRESTRICTED

NOTES PAYABLE—Riggs National Bank. Due on or before No- vember 29, 1949. Interest 3%	850,000.00
ACCOUNTS PAYABLE.....	66,475.04
DEFERRED INCOME (Schedule 3).	62,452.78
SURPLUS (Exhibit B).....	<u>648,870.85</u>
	1,647,798.67

RESTRICTED

CASH.....	140,124.86
ACCOUNTS RECEIVABLE United States Government...	53,310.38
INVENTORY—GIFT SHOP.....	1,534.00
U. S. A. SAVINGS BONDS Series G, 2½%, due 11-1-54.	<u>50,000.00</u>
	244,969.24

PRINCIPAL OF FUNDS (Exhibit C)

244,969.24

LOAN FUNDS

CASH.....	18,913.27
LOANS RECEIVABLE (Schedule 4)	<u>18,604.73</u>
	37,518.00

PRINCIPAL OF FUNDS (Exhibit D)....

37,518.00

ENDOWMENT FUNDS

CASH.....	52,992.10	
INVESTMENTS (Schedule 5).....	2,502,011.07	
	<u>2,555,003.17</u>	
CONTROLLED BY OTHER TRUSTEES (Schedule 6).....	341,541.45	2,896,544.62
		<u>2,896,544.62</u>

PLANT FUNDS

UNEXPENDED

CASH.....	60,601.63	
INVESTMENTS (Schedule 7).....	179,659.99	
	<u>240,261.62</u>	240,261.62

PRINCIPAL OF FUNDS (Exhibit F)..... 240,261.62

INVESTED IN PLANT

LAND AND BUILDINGS (Schedule 8).....	14,962,026.09	
EQUIPMENT (Schedule 9).....	1,884,332.64	
	<u>16,846,358.73</u>	

TRUST NOTES PAYABLE

(Schedule 8).....	307,436.36	
NET INVESTMENT (Exhibit G).....	16,538,922.37	
	<u>16,846,358.73</u>	

TOTAL.....	21,913,450.88	21,913,450.88
	<u>21,913,450.88</u>	<u>21,913,450.88</u>

EXHIBIT A

SUMMARY OF CURRENT OPERATING INCOME AND EXPENSE

For the Year Ended August 31, 1949

Income (Schedule 1)

Educational and General

Student Fees.....	3,740,504.22	
Investments.....	88,743.55	
Gifts.....	477,522.16	
Grants for Organized Research.....	119,441.38	
Miscellaneous Sources.....	2,137,426.47	
Activities Relating to Instruction—Hospital.....	6,563,637.78	
Other.....	340,751.96	
Auxiliary Enterprises.....	6,904,389.74	

Expense (Schedule 2)

Educational and General

Administration and General.....	634,198.91	
Instruction.....	1,686,114.78	
Organized Research.....	470,911.60	
Libraries.....	72,936.64	
Maintenance and Operation of Plant.....	355,200.29	
Miscellaneous Expense.....	267,092.41	
Activities Relating to Instruction—Hospital.....	2,205,324.80	
Other.....	298,890.88	
Auxiliary Enterprises.....	41,592.55	
Non Educational.....	6,032,262.86	
Less general overhead.....	74,439.74	
	5,957,823.12	

SUMMARY OF CURRENT FUNDS UNRESTRICTED SURPLUS

For the Year Ended August 31, 1949

528,903.00

BALANCE AUGUST 31, 1948.....

ADDITIONS

Excess of Current Operating Income over Current Operating Expense (see above).....
 Deferred Charges—To be recovered in subsequent years from gifts and other income. Cumulative figures reported on Exhibit A.....
 Loss on operation of the Hospital.....
 Hospital Equipment.....
 Reimbursement for depreciation on hospital building and equipment (Exhibit G).....
 Administrative Reserve Fund (Schedule 10—Page 4).....
 Reimbursement for expenditures made prior to September 1, 1948.....
 Class of 1929 Women's Unit No. 3 (Schedule 13).....
 General Building Fund (Schedule 13).....

946,566.62
 67,946.99
 64,897.19
 150,000.00
 3.18
 426.50
 371.11

1,230,211.59
 1,759,114.59

DEDUCTIONS

Transferred to Net Investment in Plant—Exhibit G

Land and Buildings.....
 Equipment (Schedule 9).....
 Hospital.....
 Nurses Home.....
 Student Union Building.....
 Welling Hall.....

950,729.38
 96,279.57

64,897.19
 7,859.41
 16,889.02
 6,633.95

Reductions of Trust Notes Payable—Exhibit G

Trust Notes Payable August 31, 1948.....
 Trust Notes Payable August 31, 1949.....

1,090,243.74

43,234.79

BALANCE AUGUST 31, 1949—EXHIBIT A.....

668,870.85

EXHIBIT B

SUMMARY OF CURRENT FUNDS RESTRICTED

For the Year Ended August 31, 1949

	TOTAL	ORGANIZED RESEARCH	INVESTMENT INCOME	MISCEL- LANEOUS	AGENCY
BALANCE AUGUST 31, 1948.....	260,457.73	142,716.30	77,787.01	24,175.46	15,778.96
ADDITIONS (Schedule 10)					
Gifts and grants.....	505,815.55	494,135.06		11,680.49	
Investment income.....	112,502.64		112,502.64		21,611.67
Deposits.....	21,611.67				21,611.67
	639,929.86	494,135.06	112,502.64	11,680.49	
DEDUCTIONS (Schedule 10)					
Salaries.....	287,637.44	287,637.44			
Expenses.....	183,274.16	183,274.16			
Prizes.....	1,238.92		923.92	315.00	
Scholarships.....	5,545.67		4,718.27	827.40	
Honorarium.....	40.00		40.00		
Transferred to the following					
Exhibit B—Surplus.....	3.18			3.18	
Exhibit G—Net Investment in Plant.....	82.14		82.14		
Schedule 1—Current Operating Income.....	95,989.99		89,890.07	6,099.92	
Schedule 11—Loan Funds.....	197.69		197.69		
Schedule 12—Endowment Funds.....	50,152.70		41,152.70	9,000.00	
Schedule 13—Plant Funds.....	5,653.47		3,103.47	2,550.00	
Fellowships.....	847.33			847.33	
Lectures.....	816.63			816.63	
Refunded to donors.....	508.63			508.63	
Key deposits refunded.....	226.00			226.00	
Other disbursements.....	23,204.40				23,204.40
	655,418.35	470,911.60	140,108.26	21,194.09	23,204.40
BALANCE AUGUST 31, 1949—EXHIBIT A	244,543.24	145,939.76	50,181.39	14,661.86	14,186.23

SUMMARY OF LOAN FUNDS PRINCIPAL

For the Year Ended August 31, 1949

BALANCE AUGUST 31, 1948.....	40,040.75
ADDITIONS (Schedule 11)	
Income of D.C.—D.A.R. Endowment Fund.....	197.69
Interest on loans.....	<u>456.22</u>
	653.91
	<u>40,694.66</u>
DEDUCTIONS (Schedule 11)	
Refunded to United States Government.....	<u>3,176.66</u>
BALANCE AUGUST 31, 1949—EXHIBIT A.....	<u><u>37,518.00</u></u>

SUMMARY OF ENDOWMENT FUNDS PRINCIPAL

For the Year Ended August 31, 1949

BALANCE AUGUST 31, 1948..... 2,787,869.45

ADDITIONS (Schedule 12)

Gifts.....	51,397.53
Investment income.....	47,132.02
Gain on sale of investments.....	1,209.84
Transferred from Schedule 10—Page 4.....	9,000.00
	<u>108,739.39</u>

DEDUCTIONS (Schedule 12)

Loss on sale of investments.....	64.22
	<u>108,675.17</u>

BALANCE AUGUST 31, 1949—EXHIBIT A..... 2,896,544.62

SUMMARY OF PLANT FUNDS PRINCIPAL—UNEXPENDED

For the Year Ended August 31, 1949

BALANCE AUGUST 31, 1948.....	239,257.60
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ADDITIONS (Schedule 13)

Gifts.....	56,655.38
Investment income.....	5,638.49
Gain on sale of investments.....	2,494.00
Transferred from Schedule 10—Page 4.....	67,337.87

DEDUCTIONS

Loss on sale of investments.....	4,907.75
Transferred to Surplus—Exhibit B.....	797.61
Equipment—Invested in Plant—Exhibit G.....	66,333.85
	<u>1,004.02</u>

BALANCE AUGUST 31, 1949—EXHIBIT A.....	<u>240,261.62</u>
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EXHIBIT F

SUMMARY OF NET INVESTMENT IN PLANT

For the Year Ended August 31, 1949

BALANCE AUGUST 31, 1948.....	8,458,122.27
ADDITIONS	
Reductions in Trust Notes Payable (Exhibit B).....	43,234.79
Land and Buildings (Schedule 8)	
Current Funds Unrestricted Surplus (Exhibit B).....	950,729.38
Gifts of United States Government (page 80)	
Hospital—excess of appraised value over cost.....	6,841,396.50
Veterans Housing—appraised value.....	150,000.00
	7,942,125.88
Equipment	
Current Funds Unrestricted Surplus (Exhibit B).....	96,279.57
Current Funds Restricted (Exhibit C).....	82.14
Plant Funds (Exhibit F).....	60,628.49
Departments (Schedule 2—Page 6)	
Gifts (Page 80)	
Hospital Equipment.....	2,100.00
Veterans Housing Equipment.....	20,000.00
	245,439.43
	8,230,800.10
	16,688,922.37
DEDUCTIONS—(Exhibit B)	
Provision for Depreciation—Hospital (Schedules 2 and 8).....	60,000.00
Provision for Depreciation—Hospital Equipment (Schedules 2 and 9).....	90,000.00
	150,000.00
BALANCE AUGUST 31, 1949—EXHIBIT A.....	16,538,922.37

SCHEDULES

CURRENT OPERATING INCOME

For the Year Ended August 31, 1949

EDUCATIONAL AND GENERAL

STUDENT FEES

Tuition and Laboratory

Junior College.....	840,977.39
Columbian College.....	355,794.54
Graduate Council.....	8,948.00
School of Government.....	237,538.61
Division of Secretarial Studies.....	509.00
" Special Students.....	196,862.86
" University Students.....	283,103.12
	<u>1,923,733.52</u>

Law School.....	405,146.40
School of Education.....	88,313.62
" Engineering.....	293,302.81
" Medicine.....	207,864.00
" Pharmacy.....	28,173.67
	<u>1,022,800.50</u>
	<u>2,946,534.02</u>

Summer Sessions—Junior College.....	154,372.25
" Columbian College.....	72,500.50
" Graduate Council.....	936.00
" School of Government.....	72,808.25
" Division of Special Students.....	48,169.00
" " University Students.....	137,176.25
" Law School.....	132,614.00
" School of Education.....	22,078.25
" " Engineering.....	53,118.00
" " Pharmacy.....	691.50
	<u>694,464.00</u>

Unallocated—Old Fees

1,315.95 3,642,313.97

Miscellaneous Fees

Application.....	35, 107.70
Aptitude Tests.....	1,281.00
Art Validation.....	225.00
Binding Theses.....	644.00
Breakage.....	216.60
Graduation.....	48,050.00
Late.....	1,400.00
Library Fines.....	781.65
Publication of Theses.....	450.00
Reinstatement.....	440.00
Service.....	1,384.00
Special Examinations.....	365.00
Student Bar Association....	6,390.00
Transcripts.....	1,455.30
	<hr/>
	98,190.25
	<hr/>
	3,740,504.22

CURRENT OPERATING INCOME (Continued)
For the Year Ended August 31, 1949

EDUCATIONAL AND GENERAL (Continued)

INVESTMENT INCOME (Schedule 10)		
Endowment Funds—Unrestricted	23,771.95	85,747.28
“ Restricted	61,975.33	2,996.27
Plant Funds—Restricted		88,743.55

GIFTS		
Unrestricted (page 78)		14.81
Restricted		
Schedule 10		
Freeman and Watts Fund	133.33	
Jewish Social Service Fund	1,100.00	
Markle Foundation	4,999.92	
Other (page 78)	6,233.25	
	362.50	6,595.75
		6,610.56

GRANTS FOR ORGANIZED RESEARCH (Schedule 10)		
Deferred from 1947-48	142,716.30	
Income 1948-49	494,135.06	636,851.36
Deferred to 1949-50		165,939.76
		470,911.60

MISCELLANEOUS SOURCES

Discounts Earned.....	2,763.10
Homecoming Celebration.....	4,155.42
Miscellaneous Income.....	2,680.93
Reading Clinic.....	2,120.00
Rent on University Property—Net.....	34,725.13
Speech Clinic.....	3,038.00
Veterans Administration—Handling Fee.....	38,218.61

Student Activities

Athletics—Programs.....	4,058.55
Law Review.....	2,602.79
University Players.....	7,289.40

Student Council

Book Exchange.....	2,538.29
Cherry Tree 1947.....	573.49
Cherry Tree 1948.....	1,085.09
Cherry Tree 1949.....	4,113.75
Freshman Class.....	650.17
Glee Club.....	136.82
Hatchet.....	7,751.23
Junior Class.....	20.00
Miscellaneous.....	492.40
Senior Class.....	428.21

17,789.45 31,740.19 119,441.38

CURRENT OPERATING INCOME (Continued)

For the Year Ended August 31, 1949

EDUCATIONAL AND GENERAL (Continued)

ACTIVITIES RELATING TO INSTRUCTION—HOSPITAL

Room Charges		
Private Rooms.....	324,728.40	
Semi-Private Rooms.....	608,254.58	
Wards.....	176,863.18	
Nursery.....	68,092.00	1,177,938.16
<hr/>		
Special Service Departments		
Operating Rooms.....	131,774.50	
Delivery Rooms.....	63,782.00	
Anesthesia.....	167,908.00	
X-Ray.....	114,366.83	
Physical Medicine.....	39,988.50	
Laboratories—Tests	161,327.09	
Pathology.....	26,246.50	
" Electrocardiographs.....	6,874.85	
Pharmacy.....	104,069.80	
Medical and Surgical Supplies—General.....	38,190.93	
Oxygen.....	19,787.75	
" " " " " " "	2,412.00	
Baby Beds.....	9,655.50	
Electroencephalographs.....	886,384.25	
<hr/>		
Out-Patient Departments		
Clinic.....	31,373.38	
Emergency.....	3,376.50	
Ophthalmology.....	23,573.02	
Urology.....	5,394.40	
Surgery.....	4,173.25	
Psychiatry.....	604.64	
Other Income—Telephone.....		12,103.38
		<hr/>
		2,144,920.98

68,495.19

12,103.38

2,144,920.98

Less Deductions		
Allowances—Health Security Administration.....	49,319.67	
" Group Hospitalization.....	29,140.29	
" D. C. Health Department.....	29.65	
" Other.....	2,199.82	
Free Work.....	13,535.77	
Uncollectible Accounts Receivable.....	22,859.64	
	<u>117,084.84</u>	<u>2,027,836.14</u>
Other Sources		
Cafeteria.....	66,967.91	
Special Duty Nurses.....	1,821.65	
Laundry.....	524.75	
Ambulance Service.....	60.00	
Gifts (page 78).....	882.50	
Endowment Income (Schedule 10—Page 2).....	1,146.52	
Miscellaneous.....	<u>1,458.87</u>	<u>72,862.20</u>
		<u>2,100,698.34</u>
ACTIVITIES RELATING TO INSTRUCTION—OTHER		
Post-Graduate Medical Education		
Deferred from 1946-47.....	54,627.00	
Tuition.....	27,408.60	
Gift (page 78).....	<u>28.76</u>	
Deferred to 1949-50.....	82,064.36	
	<u>45,681.22</u>	<u>36,383.14</u>
Orthoptic Training—Deferred from 1946-47.....	344.99	<u>36,728.13</u>

CURRENT OPERATING INCOME (Continued) For the Year Ended August 31, 1949

AUXILIARY ENTERPRISES

RESIDENCE HALLS		
Nurses Home—Everglades Apartments.....	22,242.55	
Staughton Hall.....	18,950.02	
Strong Hall.....	34,426.47	
Veterans Housing.....	37,160.52	
Welling Hall.....	18,480.80	
2025 H Street, NW.....	4,871.68	136,132.04
SORORITY HALLS		
2112 G Street, NW.....	1,237.50	
2129 G Street, NW.....	4,500.00	
2131 G Street, NW.....	660.00	
802 21st Street, NW.....	1,920.00	8,317.50
OTHER		
Dining Hall.....	39,645.38	
Duplicating Bureau.....	4,452.56	
Lisner Auditorium.....	10,600.00	
Martha Washington Club.....	95.00	
Student Club.....	110,055.13	
Student Union.....	586.35	
Washington Counseling Center.....	30,868.00	
		196,302.42
TOTAL—EXHIBIT B		<u>340,751.96</u>
		<u>6,904,389.71</u>

CURRENT OPERATING EXPENSE

For the Year Ended August 31, 1949

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
EDUCATIONAL AND GENERAL				
ADMINISTRATION AND GENERAL				
President's Office.....	107,008.22	53,341.00	53,370.07	297.15
Vice-President's Office.....	17,635.74	15,154.84	2,480.90	
Comptroller's Office.....	102,375.07	87,062.35	15,312.72	
Business Manager's Office.....	123,852.83	49,054.97	49,467.86	25,330.00
Admissions Office.....	49,007.17	44,618.26	4,388.91	
Registrar's Office.....	49,765.52	42,104.75	7,660.77	
Activities for Men.....	19,063.08	15,319.38	3,743.70	
Activities for Women.....	10,690.68	9,649.88	1,040.80	
Adviser to Students from Foreign Countries.....	1,186.19	450.00	736.19	
Alumni Relations Office.....	32,592.87	16,260.48	16,332.39	
Public Relations Office.....	36,956.11	22,675.94	14,280.17	
Retirements.....	58,520.92	16,072.92	42,448.00	
University Chapels.....	1,168.46	925.00	243.46	
Veterans Administration.....	24,376.05	22,604.56	1,771.49	
TOTAL—EXHIBIT B.....	634,198.91	395,294.33	213,277.43	25,627.15

CURRENT OPERATING EXPENSE (Continued)
For the Year Ended August 31, 1949

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
EDUCATIONAL AND GENERAL (Continued)				
INSTRUCTION				
Junior College	14,112.06	12,989.69	1,122.37	
Columbian College	3,088.02	2,636.56	451.46	
Graduate Council	5,746.73	3,913.01	1,833.72	
School of Government	4,141.38	3,617.03	524.35	
Division of Extension Students.	438.86	403.31	35.55	
" Journalism				
" Secretarial Studies				
" Special Students	4,998.04	4,793.61	204.43	
" University Students	4,624.38	3,924.79	699.59	
	<u>37,149.47</u>	<u>32,278.00</u>	<u>4,871.47</u>	
Art	21,184.35	10,600.00	10,584.35	6,170.56
Biology	20,833.80	13,995.00	6,088.24	210.00
Botany	12,461.39	11,770.00	481.39	
Business Administration	44,308.29	44,135.00	173.29	
Chemistry	75,890.28	66,212.35	8,951.35	726.58
Classical Languages and Literature	3,709.73	3,690.00	19.73	

Economics.....	39,689.96	39,489.96	200.00
English.....	90,546.18	90,181.00	365.18
Extension.....	4,400.54	4,106.00	294.54
Foreign Affairs.....	1,980.00	1,980.00	
Foreign Service Review.....	9,580.13	8,715.75	864.38
Geography.....	16,139.82	12,880.00	349.27
Germanic Languages.....	21,334.21	21,300.00	34.21
Government and Economic Policy.....	450.00	450.00	
Graduate Council.....	2,169.13	200.00	1,969.13
History.....	48,625.52	48,339.88	285.64
Journalism.....	6,375.40	6,310.00	65.40
Mathematics.....	39,505.16	39,475.00	30.16
Philosophy.....	6,708.11	6,660.00	48.11
Physics.....	51,105.73	49,138.21	910.30
Political Science.....	33,657.86	33,469.96	187.90
Public Administration.....	2,340.00	2,340.00	
Psychology.....	39,447.12	38,557.46	666.80
Religion.....	7,450.62	7,400.00	50.62
Romance Languages.....	75,069.81	74,909.84	159.97
Secretarial Studies.....	5,025.51	4,775.00	250.51
Sociology.....	13,691.02	13,609.92	81.10
Speech.....	40,059.59	38,119.99	1,563.00
Statistics.....	21,427.15	19,940.00	1,365.00
Zoology.....	28,479.65	23,840.00	4,154.65
	<u>820,795.55</u>	<u>768,868.32</u>	<u>13,524.37</u>
			<u>2,910.55</u>
			<u>1,057.22</u>
			<u>222.86</u>
			<u>376.60</u>
			<u>1,365.00</u>
			<u>485.00</u>
			<u>13,524.37</u>

CURRENT OPERATING EXPENSE (Continued)
For the Year Ended August 31, 1949

	<u>TOTAL</u>	<u>SALARIES</u>	<u>OTHER EXPENSE</u>	<u>EQUIPMENT EXHIBIT G</u>
EDUCATIONAL AND GENERAL (Continued)				
INSTRUCTION (Continued)				
Law School				
Administration	7,321.26	5,909.95	1,411.31	
Instruction	116,328.85	114,886.00	1,442.85	
	<u>123,650.11</u>	<u>120,795.95</u>	<u>2,854.16</u>	
School of Education				
Administration	5,069.61	4,500.00	569.61	134.57
Education	32,833.41	31,303.04	1,395.80	174.95
Home Economics	14,648.51	13,200.00	1,273.56	
	<u>52,551.53</u>	<u>49,003.04</u>	<u>3,238.97</u>	<u>309.52</u>
School of Engineering				
Administration	4,082.06	3,415.97	666.09	1,214.70
Civil	38,247.62	36,122.42	910.50	6,259.99
Electrical	35,205.38	28,340.00	605.39	377.27
Mechanical	35,064.59	34,150.00	537.32	
Engineering Administration	7,989.92	7,989.92		
	<u>120,599.57</u>	<u>110,038.31</u>	<u>2,719.30</u>	<u>7,851.96</u>

School of Medicine

Administration	17,195.12	13,881.47	3,313.65	
Anatomy	14,142.84	12,841.52	1,132.82	168.50
Anesthesiology	317.00	317.00		
Bacteriology, Hygiene, and Preventive Medicine	23,741.96	22,273.05	1,002.41	466.50
Biochemistry	25,247.28	21,995.66	2,167.63	1,083.99
Dermatology and Syphilology	1,368.90	1,350.00	18.90	
Lecturers and Exchange Professors	925.00	925.00		
Medicine	52,002.15	51,149.46	852.69	
Neurology and Neurological Surgery	5,769.95	5,474.94	295.01	
Obstetrics and Gynecology	20,526.83	20,370.00	156.83	
Ophthalmology	2,224.45	1,950.00	274.45	
Oto-rhino-laryngology	1,920.96	1,825.00	95.96	
Pathology	24,233.44	23,083.10	809.40	340.94
Pediatrics	7,254.34	7,250.00	4.34	
Pharmacology	16,127.01	14,960.93	766.08	400.00
Physical Medicine	2,674.96	2,674.96		
Physiology	23,265.26	21,461.89	1,328.06	475.31
Psychiatry	2,783.74	2,700.00	83.74	
Research—General	19,258.21	4,199.25	15,058.96	
Surgery	23,718.78	23,694.12	24.66	
Urology	1,337.92	1,300.00	37.92	
	<u>286,036.10</u>	<u>255,677.35</u>	<u>27,423.51</u>	<u>2,935.24</u>

CURRENT OPERATING EXPENSE (Continued)

For the Year Ended August 31, 1949

EDUCATIONAL AND GENERAL (Continued)

INSTRUCTION (Continued)

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
School of Pharmacy				
Administration.....	2,126.97	1,620.00	506.97	789.94
Instruction.....	21,932.51	19,614.98	1,527.59	
	<u>24,059.48</u>	<u>21,234.98</u>	<u>2,034.56</u>	<u>789.94</u>
Summer Sessions				
Administration.....	5,127.18	1,259.99	3,867.19	
Instruction.....	190,642.90	185,827.49	4,300.11	515.30
	<u>195,770.08</u>	<u>187,087.48</u>	<u>8,167.30</u>	<u>515.30</u>
Physical Education				
Men.....	29,738.34	19,656.09	10,082.25	
Women.....	32,914.04	27,024.47	5,889.57	
	<u>62,652.38</u>	<u>46,680.56</u>	<u>15,971.82</u>	

TOTAL INSTRUCTION—EXHIBIT B.....	1,686,114.78	1,559,375.99	100,812.46	25,926.33
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ORGANIZED RESEARCH (Schedule 10)—EXHIBIT B.....

LITERARIES

Books.....			
Other Expense.....	14,299.14		14,299.14
	58,637.50	7,149.65	250.00
TOTAL—EXHIBIT B.....	72,936.64	7,149.65	14,549.14

MAINTENANCE AND OPERATION OF PLANT—EXHIBIT B....

	355,200.29	177,992.00	177,208.29
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MISCELLANEOUS EXPENSE

Alumni Duos.....	2,939.00		2,939.00
Homecoming.....	4,155.42		4,155.42
Real Estate Conveyance.....	1,480.55		1,480.55
Student Activities			
Health Administration.....	24,043.93		5,604.09
Law Review.....	7,257.27	18,439.84	6,257.27
Men's Athletics.....	152,333.76	1,000.00	116,048.58
Student Activities Office.....	5,410.28	36,285.18	3,130.31
Student Council Accounts.....	51,931.72	2,279.97	50,893.43
University Accounts.....	9,613.39	1,038.29	4,863.55
University Players.....	7,927.09	4,749.84	7,098.09
TOTAL—EXHIBIT B.....	267,092.41	829.00	202,470.29

CURRENT OPERATING EXPENSE (Continued)

For the Year Ended August 31, 1949

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT C
EDUCATIONAL AND GENERAL (Continued)				
ACTIVITIES RELATING TO INSTRUCTION—HOSPITAL				
Administration.....	194,430.26	103,479.02	90,951.24	
Dietary.....	336,948.99	170,206.12	166,742.87	
Household and Property				
Laundry.....	38,045.69	36,087.33	1,958.36	
House-keeping.....	123,400.35	97,156.54	26,243.81	
Plant.....	107,329.57	43,537.14	63,792.43	
Maintenance of Building and Equipment.....	19,493.36	9,878.64	9,614.72	
	288,268.97	186,659.65	101,609.32	
Professional Care—General				
Medical and Surgical Service.....	143,828.25	44,176.45	99,651.80	
Medical Library for Residents and Interns.....	1,200.00	1,200.00		
Nursing Care.....	475,774.44	475,398.44	376.00	
Medical Records.....	17,408.57	16,589.08	819.49	
Pharmacy.....	58,437.48	10,199.84	48,237.64	
Central Sterile Supply.....	11,180.58	11,092.81	87.77	
	707,829.32	558,656.62	149,172.70	
Professional Care—Special				
Operating Rooms.....	85,319.53	53,359.74	31,959.79	
Delivery Rooms.....	45,569.82	35,978.93	9,590.89	
Laboratories.....	93,742.24	85,874.99	7,867.25	
X-Ray.....	62,026.33	41,264.75	20,761.58	
Electroencephalography.....	4,504.87	3,960.00	544.87	
Anesthesiology.....	91,064.37	81,957.41	9,106.96	
Physical Medicine.....	26,289.48	25,619.31	670.17	
Urology.....	957.43	608.90	348.51	
Dentistry.....	409,874.48	328,624.03	80,850.45	

Out Patient Department

General Services.....	15,758.43	15,320.83	437.60
Medicine.....	11,757.82	8,843.21	2,914.61
Surgery.....	11,856.78	6,743.85	5,112.93
Gynecology and Obstetrics.....	2,581.40	2,293.75	287.65
Ophthalmology.....	18,642.39	12,132.00	6,510.39
Ear, Nose, Throat.....	604.36	400.00	204.36
Urology.....	3,120.78	1,851.10	1,269.68
Cardiology.....	2,613.01	2,280.00	333.01
Social Service.....	1,557.61	1,556.68	.93
Nursing Care.....	5,310.57	5,310.57	
Housekeeping.....	12,640.99	12,640.99	
Emergency.....	6,687.50	6,687.50	
	<u>93,131.64</u>	<u>76,060.48</u>	<u>17,071.16</u>

Auxiliary Enterprises

Ambulance Service.....	155.00		155.00
Residents' and Interns' Room Charges.....	(-11,593.33)		(-11,593.33)
	<u>(-11,438.33)</u>		<u>(-11,438.33)</u>

Depreciation (Exhibit G)

Building (Schedule 8).....	60,000.00		60,000.00
Equipment (Schedule 9).....	90,000.00		90,000.00
	<u>150,000.00</u>		<u>150,000.00</u>
TOTAL HOSPITAL—EXHIBIT B.....	<u>2,168,645.33</u>	<u>1,423,685.92</u>	<u>744,959.41</u>

ACTIVITIES RELATING TO INSTRUCTION—OTHER

Post-Graduate Medical Education.....	36,383.14	13,562.79	22,820.35
Orthoptic Training.....	296.33	110.00	186.33
TOTAL—EXHIBIT B.....	<u>36,679.47</u>	<u>13,672.79</u>	<u>23,006.68</u>

CURRENT OPERATING EXPENSE (Continued)

For the Year Ended August 31, 1949

AUXILIARY ENTERPRISES

	TOTAL	SALARIES	OTHER EXPENSE	EQUIPMENT EXHIBIT G
RESIDENCE HALLS				
Nurses Home—Everglades Apartments.....	812.11	647.50	164.61	
Staughton Hall.....	12,876.09	8,748.35	4,127.74	
Strong Hall.....	43,595.04	14,236.01	29,359.03	
Veterans Housing.....	32,788.09	11,971.19	20,816.90	
Welling Hall.....	11,195.48	2,000.00	9,195.48	
2025 H Street, NW.....	2,718.24	552.50	2,165.74	
	<u>103,985.05</u>	<u>38,155.55</u>	<u>65,829.50</u>	
SORORITY HALLS				
2112 G Street, NW.....	545.67	100.00	445.67	
2129 G Street, NW.....	3,253.07	600.00	2,653.07	
2131 G Street, NW.....	732.48	100.00	632.48	
802 21st Street, NW.....	<u>2,095.27</u>	<u>300.00</u>	<u>1,795.27</u>	
	<u>6,626.49</u>	<u>1,100.00</u>	<u>5,526.49</u>	
OTHER				
Dining Hall.....	43,367.79	17,344.08	26,023.71	
Duplicating Bureau.....	1,995.49		1,995.49	
Liner Auditorium.....	13,617.37	7,747.56	5,869.81	
Student Club.....	104,362.48	19,539.09	84,823.39	
Student Union.....	541.54		541.54	
Washington Counseling Center.....	<u>24,394.67</u>	<u>22,925.29</u>	<u>1,222.77</u>	<u>246.61</u>
	<u>188,279.34</u>	<u>67,556.02</u>	<u>120,476.71</u>	<u>246.61</u>
TOTAL—EXHIBIT B.....	<u>298,890.88</u>	<u>106,811.57</u>	<u>191,832.70</u>	<u>246.61</u>

NON EDUCATIONAL

FINANCIAL CAMPAIGN.....	805.21	.....	805.21
INTEREST ON NOTES PAYABLE.....	21,659.34	.....	21,659.34
SCHOLARSHIPS.....	19,128.00	.....	19,128.00
TOTAL—EXHIBIT B.....	<u>41,592.55</u>	<u>41,592.55</u>

TOTAL EXPENSE—EXHIBIT B.....	6,032,262.86	<u>4,080,330.01</u>	<u>1,885,583.62</u>
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Less general overhead expense charged to various departments and included in "Other Expense" above...

74,439.74

TOTAL EXPENSE, ADJUSTED—EXHIBIT B.....	<u>5,957,823.12</u>
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MISCELLANEOUS ASSETS AND LIABILITIES

August 31, 1949

ACCOUNTS RECEIVABLE

Veterans Administration—Veterans' Tuition, Books, Supplies	470,625.98
Washington Counseling Center	2,762.25
Regular Students—Tuition and Other Fees	14,096.70
Dormitory Rents	990.20
Hospital	171,472.82
B. and B. Catering Services, Inc.	3,342.64
	<u>663,290.59</u>

EXHIBIT A

PREPAID EXPENSE

University—Supplies—Stockroom	32,012.00
Student Club	12,456.00
Duplicating Bureau	385.00
Microscopes	1,036.26
Miscellaneous	3,104.00
Hospital—Supplies—Medical and Surgical	<u>71,218.94</u>
Pharmacy	14,860.94
Ophthalmology	9,208.77
Maintenance and Housekeeping	4,623.42
Linens and Bedding	6,277.95
Office	4,365.36
Food	6,935.06
Insurance	8,789.97
	<u>126,280.41</u>
	<u>175,273.67</u>

48,993.26

DEFERRED INCOME

Post-Graduate Medical Education	45,681.22
Student Fees	15,148.00
Student Council	588.81
Audio Visual Aids	925.67
Homecoming Celebration	<u>169.08</u>
	<u>62,452.78</u>

ASSETS OF LOAN FUNDS

August 31, 1949

FUNDS	TOTAL	CASH	LOANS RECEIVABLE
D.C.—D.A.R. Loan Fund.....	2,865.41	2,619.01	246.40
George Washington Law Association Loan Fund.....	769.73	609.73	160.00
Home Economics Loan Fund.....	352.35	352.35	
Kellogg Medical School Loan Fund.....	16,345.20	7,875.42	8,469.78
Sutherland Medical School Loan Fund.....	1,200.00	700.00	500.00
University Loan Fund.....	8,125.01	6,756.76	1,368.25
War Loan Fund.....	7,860.30	.....	7,860.30
TOTAL—EXHIBIT A.....	37,518.00	18,913.27	18,604.73

ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY
August 31, 1949
CONSOLIDATED ENDOWMENT FUNDS

	DESCRIPTION	%	DUE	VALUE		
				PAR	MARKET	BOOK
BONDS						
American Telephone and Telegraph Co.	Debenture	2 3/4	1961	12,000	12,600.00	13,106.00
Atchison, Topeka and Santa Fe Ry. Co.	General Mortgage	4	1995	2,000	2,540.00	1,970.00
Baltimore and Ohio R. R. Co., Pittsburgh, Lake Erie and W. Va. System	Refunding Mortgage, Series A...	4	1980	5,000	4,150.00	5,040.00
Capital Transit Co.	First and Refunding Mortgage A.	4	1964	8,000	7,680.00	8,000.00
Great Northern Railway Co.	General Mortgage D.	4 1/2	1976	25,000	29,250.00	25,201.00
Liggett and Myers Tobacco Co.	Debenture	5	1951	12,000	12,720.00	12,245.00
New York Central Railroad Co.	Refunding and Improvement A.	4 1/2	2013	30,000	16,800.00	24,750.00
Pennsylvania Railroad Co.	General Mortgage E.	4 1/2	1984	25,000	22,250.00	26,601.00
Pennsylvania Railroad Co.	Consolidated Mortgage	4 1/2	1960	1,000	1,140.00	1,022.00
Southern Railway Co.	Development and General Mgtg.	6 1/2	1956	2,000	2,060.00	2,180.00
United States of America	Treasury Bonds	2 1/2	1939-62	50,000	51,000.00	50,000.00
United States of America	Treasury Bonds	2 1/2	1949-53	100	100.00	100.00
United States of America	Treasury Bonds	2 1/2	1967-72	10,000	10,200.00	10,000.00
United States of America	Savings Bonds, Series G.	2 1/2	10-1-54	23,000	22,034.00	23,000.00
United States of America	Savings Bonds, Series G.	2 1/2	11-1-54	47,000	45,026.00	47,000.00
United States of America	Savings Bonds, Series G.	2 1/2	1-1-55	17,000	16,286.00	17,000.00
United States of America	Savings Bonds, Series G.	2 1/2	4-1-55	36,500	34,857.50	36,500.00
United States of America	Savings Bonds, Series G.	2 1/2	9-1-55	41,100	39,127.20	40,880.00
United States of America	Savings Bonds, Series G.	2 1/2	10-1-55	7,500	7,140.00	7,456.00
United States of America	Savings Bonds, Series G.	2 1/2	2-1-56	9,000	8,568.00	9,000.00
United States of America	Savings Bonds, Series G.	2 1/2	2-1-58	10,000	9,480.00	10,000.00
United States of America	Savings Bonds, Series G.	2 1/2	7-1-58	35,000	33,285.00	35,000.00
United States of America	Savings Bonds, Series F.	2 1/2	8-1-56	200	159.40	148.00
United States of America	Savings Bonds, Series F.	2 1/2	11-1-58	200	150.80	148.00
United States of America	General Mortgage	5	1960	6,000	7,260.00	6,429.00
Washington Gas Light Co.	Guaranteed First Mortgage	4	2361	26,000	14,300.00	22,620.00
West Shore Railroad Co.					410,163.90	435,396.00

STOCKS—PREFERRED		SHARES	
Allis-Chalmers Manufacturing Co.....	Cumulative Convertible.....	100	8,400.00
American Power and Light Co.....	\$6 Cumulative.....	150	15,150.00
American Smelting and Refining Co.....	Cumulative.....	120	19,080.00
American Viscose Corporation.....	Cumulative.....	100	12,000.00
Appalachian Electric Power Co.....	Cumulative.....	100	10,800.00
Atchison, Topeka and Santa Fe Ry. Co.....	Non Cumulative.....	60	5,940.00
Cleveland and Pittsburgh R. R. Co.....	Guaranteed.....	100	6,500.00
Connecticut Light and Power Co.....	\$2.20 Cumulative.....	400	22,800.00
Corning Glass Works.....	Cumulative.....	240	24,000.00
Detroit, Hillsdale and S. W. R. R. Co.....	Guaranteed.....	163	8,313.00
General American Transportation Co.....	\$4.25 Cumulative, Series A.....	200	20,800.00
General Motors Corporation.....	\$3.75 Cumulative.....	200	20,600.00
General Motors Corporation.....	\$5 Cumulative.....	100	12,700.00
General Shoe Corporation.....	\$3.50 Cumulative.....	50	4,100.00
Gold and Stock Telegraph Co.....	Guaranteed.....	100	10,000.00
Hecht Co.....	Cumulative.....	50	4,650.00
H. J. Heinz Co.....	Cumulative.....	200	20,000.00
Illinois Power Co.....	Cumulative.....	400	22,000.00
International Harvester Co.....	Cumulative.....	100	17,700.00
May Department Stores Company.....	\$3.75 Cumulative.....	200	19,200.00
McCrory Stores Corporation.....	Cumulative Convertible.....	200	19,400.00
McKesson and Robbins, Inc.....	\$4 Cumulative.....	100	9,700.00
Merck and Co.....	\$3.50 Cumulative.....	105	10,080.00
Oliver Corporation.....	Cumulative Convertible.....	200	18,400.00
Panhandle Eastern Pipe Line Co.....	Cumulative.....	200	20,200.00
Pennsylvania Electric Co.....	Cumulative, Series C.....	200	18,200.00
Philadelphia Electric Co.....	Cumulative.....	100	10,000.00
Potomac Electric Power Co.....	Cumulative, Series A.....	304	14,288.00
Rayonier, Inc.....	\$2 Cumulative.....	400	12,400.00
R. J. Reynolds Tobacco Co.....	Cumulative.....	100	9,500.00
Rogers, George A., and Co.....	\$6 Cumulative First.....	1	100.00
Southern California Edison Co.....	Convertible.....	800	24,000.00
Sterling Drug, Inc.....	Cumulative.....	200	19,800.00
			<u>470,801.00</u>
			484,081.52

ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY (Continued)

August 31, 1949

CONSOLIDATED ENDOWMENT FUNDS (Continued)

	VALUE		
	SHARES	MARKET	BOOK
STOCKS—COMMON			
Allis-Chalmers Manufacturing Co.	500	14,000.00	21,347.00
American Gas and Electric Co.	300	13,800.00	12,092.56
Atlantic City Electric Co.	54	918.00	934.50
Capital Transit Co.	27	567.00	2,835.00
Chrysler Corporation	200	10,200.00	11,500.25
Commonwealth Edison Co.	640	17,280.00	18,190.00
Continental Can Co.	31	1,023.00	2,375.38
Continental Illinois National Bank and Trust Co.	270	21,330.00	16,945.31
Continental Oil Co. of Delaware.	210	12,600.00	9,454.95
General Electric Co.	100	3,700.00	5,405.00
General Motors Corporation	500	30,500.00	26,523.75
Goodyear Tire and Rubber Corporation	200	7,800.00	9,411.57
International Nickel Co. of Canada, Ltd.	200	5,600.00	12,035.25
Kennecott Copper Corporation	300	13,500.00	18,227.50
Mergenthaler Linotype Co.	6	348.00	589.00
National City Bank of New York	39	1,599.00	3,517.04
New York Air Brake Co.	200	5,200.00	8,646.84
Phelps Dodge Corporation	200	8,400.00	7,857.25
Public Service Electric and Gas Co.—\$1.40 Dividend Preference	550	15,400.00	15,406.87
R. J. Reynolds Tobacco Co.—Non voting B	100	3,900.00	5,112.50
Ries, National Bank	13	4,329.00	4,875.00
Security Storage Co.	67	8,241.00	5,058.50
Socony Vacuum Oil Co.	1,530	24,480.00	23,687.16
Southern Pacific Co.	50	1,900.00	1,525.00
Standard Oil Co. of California	315	21,420.00	11,796.85
United Gas Corporation	800	13,600.00	14,150.79
		263,635.00	249,499.82

TRUST NOTES RECEIVABLE

Bronaugh, Alfred T. and Catherine—Secured by lot 21, Square 2836	4½	7-9-52	1,000.00	1,000.00
Edmund Property, Inc.—Secured by lot 4, square 15	4	11-19-52	6,500.00	6,500.00
Grady, Dallas E.—Secured by Lot 6, square 3953	4	4-9-51	6,000.00	6,000.00
Henderson, James M.—Secured by lots 33-34, square 3187	4½	2-15-52	1,000.00	1,000.00
Murphy, Lester B.—Secured by part of lot 27, block 11, Bon Air, Arlington, Va.	4½	7-1-52	1,150.00	1,150.00
Snow, Chester A.—Secured by lot 77, square 162	4	10-31-49	8,000.00	8,000.00
Swartzell, John M.—Secured by lot 82, square 33	4	7-15-51	2,000.00	2,000.00
Wollberg, Ben—Secured by lot 9, square 16	4	12-4-51	3,500.00	3,500.00
			<u>29,150.00</u>	<u>29,150.00</u>

REAL ESTATE

Strong Hall—620 21st Street, NW. Lots 19-20-818-819, square 80	227,518.20	227,518.20
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CASH	49,796.25	49,796.25
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1,449,064.35

TOTAL	<u>1,495,441.79</u>
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ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY (Continued)

August 31, 1949

SCOTTISH RITE FUND

BONDS	DESCRIPTION	%	DUZ	VALUE	
				MARKET	BOOK
	American Telephone and Telegraph Co.	2½	1980	24,750.00	25,000.00
	Capital Transit Co.	4	1964	9,600.00	10,000.00
	Central Illinois Light Co.	3½	1966	21,600.00	20,627.00
	Cleveland Union Terminals Co.	4½	1977	24,720.00	23,460.00
	Lexington and Eastern Railway Co.	5	1965	14,640.00	12,904.00
	Lexington and Eastern Railway Co.	5	1951	3,180.00	3,062.00
	Liggett and Myers Tobacco Co.	4	1997	26,000.00	26,897.00
	Northern Pacific Railway Co.	3½	1951	5,000.00	5,000.00
	Protestant Episcopal Cathedral Foundation of D. C.	2	1950-52	104,030.00	103,000.00
	United States of America	2	1951-53	20,200.00	20,000.00
	United States of America	2½	1959-62	25,500.00	25,000.00
	United States of America	2½	1967-72	25,500.00	25,000.00
	United States of America	2½	10-1-53	48,200.00	50,000.00
	United States of America	2½	10-1-54	95,800.00	100,000.00
	United States of America	2½	1-1-55	95,800.00	100,000.00
	United States of America	2½	2-1-56	952.00	1,000.00
	United States of America	5	1960	4,840.00	4,518.00
	Washington Gas Light Co.	4	2361	7,700.00	12,355.00
	West Shore Railroad Co.			558,012.00	567,823.00

STOCKS—PAID UP	%	SHARES	MARKET	BOOK
American Viscose Corporation	5	100	12,000.00	10,750.00
Consolidated Gas Electric Light and Power Co. of Baltimore	4	130	13,910.00	13,312.73
Drexler Industries	3½	200	16,400.00	20,600.00

Federated Department Stores, Inc.	Convertible	4 1/2	100	10,000.00	9,895.00
General Motors Corporation	\$3.75 Cumulative		40	4,120.00	4,000.00
General Shoe Corporation	\$3.50 Cumulative		50	4,100.00	5,120.50
Goodyear Tire and Rubber Co.	\$5 Cumulative Convertible		100	10,500.00	10,960.34
Hecht Co.	Cumulative	3 3/4	150	13,950.00	15,450.00
International Harvester Co.	Cumulative	7	50	8,850.00	9,124.08
Le Tourneau, R. G., and Co.	\$4 Cumulative		200	7,000.00	20,900.00
McKesson and Robbins, Inc.	\$4 Cumulative		100	9,700.00	9,860.25
Montgomery Ward and Co.	\$7 Cumulative A		100	18,200.00	20,535.65
Pacific Telephone and Telegraph Co.	Cumulative	6	100	14,600.00	17,906.98
Philadelphia Electric Co.	Cumulative	3.8	100	10,000.00	10,270.00
Philip Morris and Co., Ltd., Inc.	Cumulative	4	138	13,800.00	14,007.00
Potomac Electric Power Co.	Cumulative	3.6	300	14,100.00	15,525.00
R. J. Reynolds Tobacco Co.	Cumulative	3.6	200	19,000.00	20,018.77
				<u>200,230.00</u>	<u>228,236.30</u>

STOCKS—COMMON

Cincinnati Milling Machine Co.	500	12,500.00	18,609.10
Commonwealth Edison Co.	800	21,600.00	21,995.00
Continental Oil Co. of Delaware	500	30,000.00	15,725.25
General Electric Co.	400	14,800.00	17,210.00
Goodyear Tire and Rubber Co.	200	7,800.00	9,649.34
International Nickel Co. of Canada, Ltd.	300	8,400.00	13,032.50
Montgomery Ward and Co.	750	39,750.00	32,577.25
Riggs National Bank	125	41,625.00	32,625.00
Standard Oil Co. of California	105	7,140.00	2,600.00
Standard Oil Co. of New Jersey—535-156/200 shares		35,845.00	37,838.44
Underwood Corporation	300	12,900.00	20,940.19
Union Carbide and Carbon Corporation	900	34,200.00	25,122.50
United Gas Corporation	700	11,900.00	12,381.66
		<u>278,460.00</u>	<u>260,306.23</u>
CASH		3,195.85	3,195.85
		<u>1,039,897.85</u>	

Totals { Scottish Rite Fund	1,000,000.00
Reserve for Protection of Scottish Rite Fund Investments	59,561.38
	<u>1,059,561.38</u>

ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY (Continued)

August 31, 1949

SUMMARY OF ASSETS OF ENDOWMENT FUNDS—CONTROLLED BY THE UNIVERSITY

Funds	Total Assets	Cash	Total	Bonds	INVESTMENTS			Trust Notes	Real Estate
					Stocks				
					Preferred	Common			
Consolidated	1,495,441.79	49,796.25	1,445,645.54	435,396.00	484,081.52	269,499.82	29,150.00	227,518.20	
Scottish Rite	1,059,561.38	3,195.85	1,056,365.53	567,823.00	228,236.30	260,306.23			
Total—Exhibit A.	2,555,003.17	52,992.10	2,502,011.07	1,003,219.00	712,317.82	529,806.05	29,150.00	227,518.20	

ENDOWMENT FUNDS—CONTROLLED BY OTHER TRUSTEES

August 31, 1949

FUNDS	TRUSTEES	BOOK VALUE
Andrews Scholarship Fund.....	American Security and Trust Co.....	5,149.41
Fry Professorship Fund.....	National Savings and Trust Co.....	102,561.59
Harvey Scholarship Fund.....	Washington Loan and Trust Co.....	5,031.97
Sanders Fellowship Fund.....	National Savings and Trust Co.....	213,030.15
Sharpe Medical School Fund.....	National Savings and Trust Co.....	8,334.13
Spencer Scholarship Fund.....	Northern Trust Co., Chicago.....	7,434.20
TOTAL—EXHIBIT A.....		<u>341,541.45</u>

ASSETS OF PLANT FUNDS

August 31, 1949

PAIRO FUND

BONDS	DESCRIPTION	%	DUE	VALUE		
				PAR	MARKET	BOOK
Morris and Essex Railroad Co.	First and Refunding Mortgage.	3½	2000	6,000	3,360.00	4,605.00
Southern Pacific Co. (Oregon Lines)	First Mortgage A.	4½	1977	5,000	4,900.00	5,166.00
United States of America.	Treasury Bonds.	2½	1964-69	500	515.00	503.00
United States of America.	Savings Bonds, Series G.	2½	9-1-53	700	674.80	700.00
United States of America.	Savings Bonds, Series G.	2½	2-1-54	500	482.00	500.00
United States of America.	Savings Bonds, Series G.	2½	11-1-56	300	284.10	300.00
					20,215.90	11,774.00

Stocra—Common

STOCKS—COMMON	SHARES		
American Security and Trust Co.....	200	5,600.00	8,220.00
Capital Transit Co.....	200	4,200.00	14,400.00
Mergenthaler Linotype Co.....	150	8,700.00	15,806.25
National City Bank of New York.....	61	2,501.00	2,928.00
Pennroad Corporation.....	100	1,900.00	1,300.00
Riggs National Bank.....	52	17,316.00	19,695.00
		<u>39,217.00</u>	<u>62,349.25</u>

TRUST NOTES RECEIVABLE

	%	Due
Hungerford, William C. and Lillian E.—Secured by tract in Germantown, Md. Due \$20 per month including interest.....	6	Monthly 10-7-37
Woodson, H. D.—Secured by lot 159, square 1026.....	5½	
	<u>1,136.11</u>	<u>1,136.11</u>
CASH.....		55,367.27
TOTALS.....		105,936.28

CONSOLIDATED PLANT FUNDS

Bonds	C	Dur	Par	
United States of America.....	2 1/2	11-1-54	3,000	2,874.00
United States of America.....	2 1/2	10-1-55	1,000	952.00
United States of America.....	2 1/2	10-1-57	1,700	1,611.60
United States of America.....	2 1/2	4-1-61	18,600	18,600.00
United States of America.....	2 1/2	1-1-50	20,000	19,600.00
				43,900.00

STOCKS—PREFERRED

	C	SHARES	
Garfinckel and Co.....	4 1/2	750	13,500.00
			13,037.50

STOCKS—COMMON

Commonwealth and Southern Corporation.....	25	125.00	28.13
Garfinckel and Co.....	2,370	40,290.00	44,840.00
Glidden Co.....	102	2,040.00	2,575.00
		42,455.00	47,463.13
		5,234.36	5,234.36
TOTALS		104,826.96	109,634.99

CASH.....

SUMMARY OF ASSETS OF PLANT FUNDS

FUNDS	Total Assets	INVESTMENTS			
		Cash	Total	Bonds	Preferred Stocks
Consolidated Plant Funds.....	109,634.99	5,234.36	104,400.63	43,900.00	13,037.50
Pairo Fund.....	130,626.63	55,367.27	75,259.36	11,774.00	
TOTALS—EXHIBIT A	240,261.62	60,601.63	179,659.99	55,674.00	13,037.50
				Common Stocks	Trust Notes
				47,463.13	1,136.11
				62,349.25	1,136.11

LAND AND BUILDINGS For the Year Ended August 31, 1949

Building or Location	Lot	Square	Year Acquired or Erected	Balance August 31, 1948	Additions	Balance August 31, 1949
Biological Sciences Building	45	102	1914-35	151,129.97		151,129.97
Chapin Hall	3	119	1948	66,000.00		66,000.00
Corcoran Hall	43	102	1919-24	327,481.92		327,481.92
Field House Site	{ 5-13-15-17-19 24-28-29 800-801-802 805 thru 821 823-828-829-830 832-833-834-836 838-839-842 825-826 47-800-801 Entire square { A-B-17-46-52 820 thru 827 829 thru 833 833 815-816-817 806 thru 811 27-28-816-817 Part of B	56 102 79 54	1936-48 1924-25 1918-38 1945	260,133.03 58,331.44 239,035.63 350,000.00	7,039,564.00	260,133.03 58,331.44 239,035.63 7,389,564.00
Gymnasium						
Hall of Government						
Hospital						
Lisner Auditorium		79	1929-41	823,982.91		823,982.91
Lisner Hall		102	1912-39	372,230.19		372,230.19
Mechanical Laboratory		102	1923-30	57,583.87		57,583.87
Nurses Home (Schedule 8—Page 4)		55	1947	401,500.00		401,500.00
Pharmacology Laboratory		79	1944	95,482.17		95,482.17
Physics Laboratory		79	1947	26,075.12		26,075.12
School of Medicine, Cancer Clinic (Schedule 8—Page 4)	43	250	1882-1932	995,706.34		995,706.34
Shop, Stockroom	53	101	1943	26,761.24		26,761.24
Social Sciences Building	{ 24-25-28-29-30 31 32 800-801 805	102	1922-36 1936	269,279.60 36,989.72		269,279.60 36,989.72
Society Hall	2129 G Street, NW	79				

Sorority Hall—2131 G Street, NW.....	8	79	1935	25,500.00	.....	25,500.00
Sorority Hall—802 21st Street, NW.....	35	77	1938	13,000.00	.....	13,000.00
Staughton Hall.....	834-835	79	1941	51,600.00	.....	51,600.00
Stockton Hall.....	44	102	1920-25	279,325.93	.....	279,325.93
Student Activities Building.....	41	79	1947	75,000.00	.....	75,000.00
Student Union Building.....	836	79	1947-48	140,000.00	311,129.16	451,129.16
Veterans Housing			1948	.....	150,000.00	150,000.00
Parts of squares 56, 77, 79.	15	55	1947	85,000.00	124,047.72	209,047.72
Welling Hall.....				.....	70,000.00	70,000.00
Pennsylvania Avenue, NW—1920.....	813	119	1949	.....	5,000.00	5,000.00
" " 1924-26 (deposit).....	808-809	119	1949	.....	103,000.00	103,000.00
" " 2100.....	800-801-840	75	1945	.....	.....	.....
G Street, NW—1910.....	C	121	1949	.....	20,000.00	20,000.00
" 2002.....	27	103	1949	.....	33,600.00	33,600.00
" 2003.....	27	102	1936	.....	.....	.....
" 2024.....	16	103	1922	11,700.00	.....	11,700.00
" 2026.....	15	103	1929	14,955.00	.....	14,955.00
" 2033.....	805-806	102	1922	15,074.96	.....	15,074.96
" 2106.....	817	80	1937	32,500.00	.....	32,500.00
" 2108.....	41	80	1946	19,000.00	.....	19,000.00
" 2109.....	802	79	1938	31,500.00	.....	31,500.00
" 2111-17.....	4-803	79	1938	55,646.21	.....	55,646.21
" 2112.....	816	80	1948	60,000.00	.....	60,000.00
" 2116.....	A	80	1946	30,000.00	.....	30,000.00
" 2118.....	B	80	1946	20,500.00	.....	20,500.00
" 2121.....	804	79	1939	17,500.00	.....	17,500.00
" 2135.....	807	79	1943	10,146.50	.....	10,146.50
" 2222.....	25	57	1948	14,000.00	.....	14,000.00
" 2313-15-17-19-21.....	803-829	42	1947	1,000.00	7,800.00	8,800.00
				23,400.00	.....	23,400.00

LAND AND BUILDINGS—(Continued)
For the Year Ended August 31, 1949

Building or Location	Lot	Square	Year Acquired or Erected	Balance August 31, 1948	Additions	Balance August 31, 1949
H Street, NW—1909	800	119	1948	1,000.00	31,500.00	32,500.00
" 2011	806	101	1943	13,000.00		13,000.00
" 824	102	102	1922	5,250.00		5,250.00
" 2016	823	102	1929	14,000.00		14,000.00
" 822	822	102	1933	14,250.00		14,250.00
" 2018	821	102	1933	11,750.00		11,750.00
" 2018½	819-820	102	1928	31,066.71		31,066.71
" 2020 22	818	102	1924	12,000.00		12,000.00
" 2024	52	101	1945	21,000.00		21,000.00
" 2025	829	102	1925	10,200.00		10,200.00
" 2026	813	101	1941	10,200.00		10,200.00
" 2027	814	101	1945	11,500.00		11,500.00
" 2029	815	101	1948	11,500.00	13,000.00	24,500.00
" 2031	817	101	1940	23,500.00		23,500.00
" 2037	804	77	1940	12,500.00		12,500.00
" 2113	805	77	1944	12,431.25		12,431.25
" 2115	809	77	1946	7,500.00		7,500.00
" 2127	811	77	1948		15,500.00	15,500.00
" 2137-39	D	79	1935	1,500.00		1,500.00
" 2142	815	79	1940	3,000.00		3,000.00
" 2142½	804	55	1945	6,650.00		6,650.00
" 2209	16	55	1948		16,125.00	16,125.00
" 2211	17	55	1946	13,000.00		13,000.00
" 2213	18-805	55	1944	15,500.00		15,500.00
" 2215-19	817	42	1942	10,750.00		10,750.00
" 2300	800	41	1948	10,500.00		10,500.00
" 2305	801-802	41	1947	21,000.00		21,000.00
" 2307-09	43	42	1945	7,000.00		7,000.00
" 2308	803	41	1945	6,000.00		6,000.00
" 2311	814	42	1945			
" 2312		42	1945			

6,200.00

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H Street, NW—2113	25	41	1947	12,622.50	12,622.50	12,622.50
" " 2315	26	41	1947	12,000.00	12,000.00	12,000.00
" " 812	812	42	1947	9,600.00	9,600.00	9,600.00
" " 2316	804	41	1947	14,000.00	14,000.00	14,000.00
" " 2317	806-807-808	41	1945	17,000.00	17,000.00	17,000.00
I Street, NW—2012	830	101	1945	25,000.00	25,000.00	25,000.00
" " 2014	829	101	1945	25,000.00	25,000.00	25,000.00
" " 2018	21	101	1946	50,000.00	50,000.00	50,000.00
" " 2038	840	101	1941	10,000.00	10,000.00	10,000.00
" " 2106	27	77	1947	11,800.00	11,800.00	11,800.00
" " 2112	55-56	77	1947	12,500.00	12,500.00	12,500.00
" " 2136	826	77	1948	15,000.00	15,000.00	15,000.00
" " 2138	825	77	1945	5,000.00	5,000.00	5,000.00
" " 2304-06-08-10-10½-12	34-35-822-823-824	41	1945	72,250.00	72,250.00	72,250.00
" " 2314-16	38-39	41	1947	17,500.00	17,500.00	17,500.00
K Street, NW—2300	Entire square	39	1948	275,000.00	275,000.00	278,735.00
20th Street, NW—700	26	102	1931	17,500.00	17,500.00	17,500.00
" " 712	42	102	1929	14,240.00	14,240.00	14,240.00
" " 714	41	102	1930	14,500.00	14,500.00	14,500.00
" " 716	40	102	1929	13,500.00	13,500.00	13,500.00
" " 718	828-830	102	1929	20,000.00	20,000.00	20,000.00

23rd Street, NW-611-613.	29-821-822-824-825	57	1948	13,500.00		13,500.00
"	827	42	1942	3,675.00		3,675.00
"	825	42	1944	7,425.00		7,425.00
"	824	42	1949		11,000.00	11,000.00
"	819	42	1942	4,500.00		4,500.00
"	818	42	1942	3,000.00		3,000.00
"	812	41	1949		13,125.00	13,125.00
"	816	41	1947	25,000.00		25,000.00
"	818 (deposit)	41	1949		750.00	750.00
"	820	41	1949		14,000.00	14,000.00
"	822-824-826-828	41	1945	35,108.00		35,108.00
"	832-836	41	1948		19,000.00	19,000.00
"	908 (deposit)	40	1949		500.00	500.00
24th Street, NW-737-739	808	42	1947	11,440.00		11,440.00
"	809-810	41	1945	3,150.00		3,150.00
"	807	41	1945	3,750.00		3,750.00
"	811-813	41	1947	26,000.00		26,000.00
"	815	41	1946	5,750.00		5,750.00
"	817	41	1947	10,000.00		10,000.00
Less Provision for Depreciation-Hospital				7,079,900.21	7,942,125.88	15,022,026.09
TOTAL-EXHIBIT A						60,000.00
						14,962,026.09

TRUST NOTES PAYABLE

August 31, 1949

EQUITABLE LIFE ASSURANCE SOCIETY Secured by Nurses Home. Due \$7,875 each May 1 and November 1 including interest at 4%.....	207,436.36
WASHINGTON LOAN AND TRUST CO. Secured by School of Medicine and Cancer Clinic. Due February 21, 1950. Interest 4%.....	<u>100,000.00</u>
TOTAL—EXHIBIT A.....	<u><u>307,436.36</u></u>

EQUIPMENT
For the Year Ended August 31, 1949

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LOCATION	Balance August 31, 1948	Additions					Balance August 31, 1949
		Surplus (Exhibit B)	Depart- ments (Schedule 2)	Investment Income (Schedule 10)	Plant Funds (Schedule 13)	Gifts (Appendix)	
Administration.....	126,010.96		25,873.76				151,884.72
Duplicating Bureau.....	1,774.50						1,774.50
George Washington University Cancer Clinic	3,205.00						3,205.00
Gymnasium.....	2,927.37						2,927.37
Hospital.....	998,700.46	64,897.19			54,965.65	2,100.00	1,120,663.30
Instruction-General.....	120,327.08		14,208.24				134,535.32
Law School.....	1,739.63						1,739.63
Library Books.....							
General.....	99,762.07		8,746.03	82.14	872.00		109,462.24
Law School.....	71,136.88		4,086.82				75,423.70
School of Medicine.....	18,161.79		1,466.29				19,828.08
Liner Auditorium.....	88,141.15				2,906.63		91,247.78
Liner Hall.....	26,861.52		250.00				27,111.52
Nurses Home.....		7,859.41					7,859.41
Residence Hall—2025 H Street, NW	2,992.84						2,992.84
School of Engineering.....	53,145.19		7,992.91				61,138.10
School of Medicine.....	64,606.50		2,933.24				67,541.74
School of Pharmacy.....	7,190.62		789.94				7,980.56
Straughton Hall.....	10,464.16						10,464.16
Strong Hall.....	18,117.63						18,117.63
Student Club.....	13,027.86						13,027.86
Student Union Building.....		16,889.02					16,889.02
Veterans Housing.....							
Walling Hall.....		6,633.95			1,884.21	20,000.00	20,000.00
	1,728,893.21	96,279.57	66,349.23	82.14	60,628.49	22,100.00	1,974,332.64
Less Provision for Depreciation							
Hospital Equipment							90,000.00
TOTAL—EXHIBIT A.....							1,884,332.64

SCHEDULE 9

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ORGANIZED RESEARCH FUNDS						
FUNDS	Balance August 31, 1948	Receipts	Disbursements			Balance August 31, 1949
			Salaries	Other Expense	Total	
School of Medicine	1,528.33	1,500.00	1,331.50	189.32	1,520.82	7.51
American Allergy	7,169.01	1,875.00	1,124.85	375.15	1,500.00	2,375.27
Amen Co.		2,000.00	6,413.53	235.21	1,268.74	166.74
Baxter Laboratory—Dr. Bladen		800.00	1,833.26	96.00	1,929.26	244.00
Dr. Blumenthal			1,460.00	118.91	1,578.91	969.81
Campbell Products	1,088.72			15.50	15.50	464.35
Cancer Control	441.85		3,350.00	1,907.18	5,257.18	2,207.06
Cardiology	6,264.24	1,200.00	2,666.67		266.52	
Cecilia Cummings	2,066.67		750.00	644.85	1,394.85	2,494.67
Hoffman-La Roche, Inc	1,494.80			171.37	171.37	640.74
Hopkins, Ferd T. and Son	2,666.04			3,514.91	4,732.41	577.60
Hutchins, Helen F.	1,214.40		1,217.50	314.65	314.65	310.00
Institute for the Study of Anesthetic and Sedative Drugs	1,892.25					1,378.72
Institute for Cellulose Products	1,110.00	7,500.00	10,965.77	2,345.06	13,310.81	1,027.33
Johnson and Johnson	9,682.55	4,400.00	2,765.16	1,612.59	4,377.75	
Lederle Laboratories	1,003.08			24.00	24.00	
Marcelle Fleischmann Foundation—Dr. Romansky	259.13			274.19	274.19	
Milbank Memorial	885.44		400.00	471.41	817.41	
National Health Clinic	393.85					
National Drug Co.	335.52					
Nutrition Foundation		1,500.00	3,459.74	1,977.31	10,172.62	
Phizer, Charles, and Co.		6,000.00	8,195.31	1,668.87	9,405.53	970.21
United States Army		10,172.62	7,736.66	1,673.22	1,191.02	119.66
W-49-007-MD-169		9,405.53	7,178.80	3,775.50	9,701.50	1,018.11
W-49-007-MD-370		1,191.02	5,935.00	3,775.50	8,783.04	2,540.26
W-49-007-MD-454		9,701.50	7,096.62	1,486.42	9,200.00	
N60r-163		8,583.04	2,000.00	679.50	3,554.50	
United States Navy		200.00	125.00		831.32	9,166.68
N60n-419-T, O. 1.		3,554.50	2,875.00		7,970.02	166.25
N60n-419-T, O. 2.		10,000.00	811.32		1,220.16	5,629.84
N60n-74400		8,136.27	4,450.00	3,520.02	1,443.78	
United States Public Health Service—MHT No. TU-18.1-50-52		6,850.00	1,000.00	635.70	6,564.82	
H 130-C	146.24	(-2.46)	5,929.12			
C 276 C	804.41	9,180.00	353.31	2,106.67	7,459.96	
C 309 C	2,112.15	(-804.41)	2,107.00	36.90	2,070.10	
C 310 C	1,003.99	10,000.00	1,000.00	2,107.00	2,070.10	
C 312 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 313 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 314 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 315 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 316 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 317 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 318 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 319 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 320 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 321 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 322 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 323 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 324 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 325 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 326 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 327 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 328 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 329 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 330 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 331 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 332 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 333 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 334 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 335 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 336 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 337 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 338 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 339 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 340 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 341 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 342 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 343 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 344 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 345 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 346 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 347 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 348 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 349 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 350 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 351 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 352 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 353 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 354 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 355 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 356 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 357 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 358 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 359 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 360 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 361 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 362 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 363 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 364 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 365 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 366 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 367 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 368 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 369 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 370 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 371 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 372 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 373 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 374 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 375 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 376 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 377 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 378 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 379 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 380 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 381 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 382 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 383 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 384 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 385 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 386 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 387 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 388 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 389 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 390 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 391 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 392 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 393 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 394 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 395 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 396 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 397 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 398 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 399 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 400 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 401 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 402 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 403 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 404 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 405 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 406 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 407 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 408 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 409 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 410 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 411 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 412 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 413 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 414 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 415 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 416 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 417 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 418 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 419 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 420 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 421 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 422 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 423 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 424 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 425 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 426 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 427 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 428 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 429 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 430 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 431 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 432 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 433 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 434 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 435 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 436 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 437 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 438 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 439 C		10,000.00	1,000.00	2,107.00	2,070.10	
C 440 C		(-804.41)	1,000.00	2,107.00	2,070.10	
C 441 C		10,000.00	1,			

C 622-C	5,837.91	1,943.00	1,600.00	2,890.09	4,290.09	1,547.82
RG 631-C-1	2,036.64	4,222.75	2,035.00	1,610.89	3,235.82	1,665.63
RG 631-C-2	188.97	5,792.00	3,700.00	154.30	607.38	1,615.37
RG 787-C	1,422.34	3,700.00	3,700.00	1,014.52	4,714.52	1,077.48
RG 875	1,070.14	2,375.08	2,375.08	1,047.26	3,422.34	
RG 973	4,865.40	2,812.70	2,812.70	257.44	1,070.14	
RG 1204	2,808.00	2,120.00	2,120.00	2,286.40	4,386.40	
RG 1553		3,051.98	3,051.98	2,117.91	5,167.91	2,591.07
United States Veterans Administration-V1001 MF-524		13,582.25	13,582.25	2,867.52	16,447.77	
VAm-23319		147.50	147.50	89.27	236.77	76.55
Winthrop-Searns, Inc.	313.32					
SCHOOL OF PHARMACY						
Allied Chemical and Dye Corporation	604.09			604.09	604.09	
American Cyanamid and Chemical Corporation	77.44			57.00	57.00	20.94
F. I. Dupont de Nemours and Co.	544.59			391.59	391.59	153.00
Proprietary Association	798.56			51.20	51.20	747.36
HOSPITAL						
American Cancer Society						
Cancer Detection Clinic	2,047.41	6,700.00	16,821.00	3,855.00	3,855.00	2,845.00
Division of Columbia Tuberculosis Association	5,595.54	5,686.33	4,200.00	9,822.04	26,643.04	2,870.17
Division	28.77			369.41	4,569.41	6,712.46
Marcelle Fleischmann Foundation—Dr. Blades	1,000.00	3,000.00		13.87	11.87	4.90
CANCER				3,327.38	3,327.38	672.62
American Cancer Society-24 A	45,984.65	25,600.00	7,437.86	35,579.68	43,017.54	27,967.11
D. C. Division 1		10,100.00	4,447.70	4,615.67	9,063.37	1,036.63
D. C. Division 2		20,000.00		12,218.10	12,218.10	7,761.90
Darmon Runyon Memorial		25,000.00	250.00	660.68	940.68	24,059.32
George Washington University Cancer Clinic		28,540.01	5,491.25	14,429.88	19,921.13	5,618.90
United States Public Health Service		24,181.73	12,264.30	5,615.04	17,875.34	6,306.39
C 391-C		12,959.00	3,075.00	3,075.00	3,075.00	9,864.00
C 391-C-2		(-8,842.47)	7,433.32	3,273.72	10,707.04	
C 517-C	15,549.51	17,142.47	14,808.30	3,323.28	15,131.58	2,210.89
OTHER						
Research Corporation—Chemistry		4,150.00		985.33	985.33	3,364.67
United States Army		541.30	544.30		544.30	
DA-1-108 CMI-42		3,053.49	2,337.47	716.02	3,053.49	
W-44-109-qm 1145		59,989.07	46,853.83	13,135.24	59,989.07	
W-18-635-cws 1138		11,777.19	10,696.99	1,080.20	11,777.19	
W-44-109-qm 2083				8,080.26	8,080.26	
United States Navy	8,080.26					
NOp-402		6,675.00	1,180.00	2,194.18	3,474.18	3,300.82
NOp-427		45,030.70	29,417.49	15,613.21	45,030.70	
NOd-9951						
TOTALS—EXHIBIT C	142,716.30	494,135.06	287,637.44	183,274.16	470,911.60	165,939.76

CURRENT FUNDS RESTRICTED (Continued)
For the Year Ended August 31, 1949
INCOME OF ENDOWMENT AND PLANT FUNDS

Funds	Balance August 31, 1948	Net Income for Year	Disposition			Balance August 31, 1949
			Current Operations	Added to Principal	Other	
ENDOWMENT FUNDS (Schedule 12)						
UNRESTRICTED						
Acter.....		11.86	11.86			
Alumni.....		22.98	22.98			
Campaign.....		7,383.70	7,383.70			
Corcoran.....		8,704.35	8,704.35			
Davis.....		1,643.61	1,643.61			
Goddard.....		664.24	664.24			
Haggett.....		39.54	39.54			
King.....		759.74	759.74			
Reichelderfer.....		593.07	593.07			
Sanders.....		83.43	83.43			
Subscription Gifts.....		495.23	495.23			
Syma.....		59.31	59.31			
Teller.....		12.81	12.81			
Trustees.....		60.26	60.26			
Weddell.....		197.69	197.69			
Withers.....		1,063.23	1,063.23			
Woodhull.....		1,976.90	1,976.90			
			23,771.95			
SCHEDULE 1						
RESTRICTED						
Fellowship.....	34,303.79	1,560.07	1,560.07			1,500.00
King.....	156.73	7,928.95	7,928.95	34,363.86		271.68
Sanders.....						
Professorship.....		32.80	32.80			265.34
Alumni.....		19.77	19.77			
Carroll.....	245.57	6,275.04	6,275.04			
Congressional.....		6,612.60	6,612.60	612.60		
Depew.....		573.63	573.63			
Elton.....		5,879.49	5,879.49	5,879.49		3,699.24
Pry Funds.....						
Yulee.....	3,501.55	197.69	197.69			
School.....						
Government.....		38,936.35	38,936.35			
Scottish Rite.....						

CURRENT FUNDS RESTRICTED (Continued)
For the Year Ended August 31, 1949
INCOME OF ENDOWMENT AND PLANT FUNDS (Continued)

Funds	Balance August 31, 1948	Net Income for Year	Disposition			Balance August 31, 1949
			Current Operations	Added to Principal	Other	
ENDOWMENT FUNDS (Continued)						
Registrar (Continued)						
Scholarship						
Andrews	154.32	163.64	300.00			17.96
Bartch	1,457.76	690.15				2,147.91
Carr, H. H.	6,179.10	927.90	2,250.00			5,851.00
Carter, H. M.	1,150.40	1,977.69	100.00			1,248.09
Columbian Women Funds	1,250.08	39.54	30.00			1,259.62
Brown	45.38	47.45	45.38			47.45
Chamberlain's	86.97	90.97	86.97			90.94
College Women's	18.90	19.77	18.90			19.77
Founders of Columbian Women	189.07	197.69	189.07			197.69
Herron	189.07	197.69	189.07			197.69
Knapp	37.81	39.54	37.81			39.54
Wilson	135.26	39.54				174.80
Davis	53.62	84.61				138.23
Dorsey	160.08	53.62	30.00			169.62
Farnham	128.56	17.28				17.28
Hampel	248.00	118.74	300.00			47.30
Harvey	375.13	235.63	432.00			51.63
Kendall	370.68	59.31				431.44
Morchouse	7,831.45	112.28				481.96
Pearson	824.62	1,976.90	300.00			9,808.35
Powell	450.49	395.38	240.00			920.00
Shepard	331.56	129.00				339.49
Spencer	1,879.38	79.08				430.64
Stone	1,625.21	297.70				2,177.08
Swisher	243.15	98.85	60.00			2,724.06
Washington	106.26	77.22	20.00			260.37
Walker		23.72				109.98
W. Goddard						
Scholarships Awarded (included in "Student Fees" Schedule 1)			4,718.27			

Howard.....	723.83	197.69	82.14	839.38
Meyer.....	164.46	39.54		204.00
Noyes.....	39.38	395.38		818.68
Swisher Alcove.....	423.30	79.08		579.25
	500.17			
EXHIBIT G.....			82.14	
Miscellaneous.....		197.69		
D.C.—D.A.R. Fund.....		496.99		
Transferred to D.C.—D.A.R. Loan Fund (Schedule 11)	4,318.30		197.69	4,815.29
Graduate.....				
ENDOWMENT NET INCOME.....		106,402.90		
PLANT FUNDS (Schedule 13)				
PLANT ADDITIONS.....				
Class of 1929 Women's Unit No. 3.....		12.42	12.42	
Field House.....		5.40	5.40	
General Building.....		10.81	10.81	
George Washington Memorial Fund.....		234.75	234.75	
Law School Expansion.....		192.33	192.33	
Ohio School of the G. W. Memorial Association.....		48.45	48.45	
Patio (income used for athletics).....		2,996.27	2,996.27	
School of Engineering Building.....		2,352.95	2,352.95	
School of Medicine Building.....		46.28	46.28	
Student Union Furnishings.....		54.88	54.88	
Women's Activities Building.....		145.20	145.20	
SCHEDULE 1.....				
TOTALS—EXHIBIT C.....	77,787.01	112,502.64	95,614.40	50,181.39

CURRENT FUNDS RESTRICTED
For the Year Ended August 31, 1949
MISCELLANEOUS FUNDS

Funds	Balance August 31, 1948	Receipts	Disbursements	Balance August 31, 1949
FELLOWSHIP—				
Freeman and Watts		600.00	To Schedule 1	133.33
" Soroptimist Club	1,500.00		Fellowships	714.00
				466.67
SCHOLARSHIP				
American Foundation Pharm. Education	175.00		Scholarships	175.00
Anonymous		72.00	"	72.00
Dorsey, Charles W.	512.00	336.00		848.00
Kellogg Medical Technology	1,350.00	200.00	Scholarships	1,350.00
Northern Baptist			"	137.60
Pitts Foundation	826.00		Refunded to donor	428.00
Washington and Lee High School	500.00	300.00	Scholarship	500.00
Zonta Club				180.00
PRIZE				
Alpha Delta Pi Sorority		10.00	Prize	10.00
Chi Omega Sorority		25.00	"	25.00
D. C. Daughters of the American Revolution		15.00	"	15.00
Delta Gamma Sorority	75.00		"	25.00
Delta Zeta Sorority		10.00	"	10.00
Ellsworth		25.00	"	25.00
Kane, Howard Francis	8.63		Refunded to donor	8.63
Kappa Kappa Gamma Sorority		10.00	Prize	10.00
Pi Beta Phi Sorority		20.00	"	20.00
Putnam Lawrence E.	100.00		"	100.00
Sigma Kappa Sorority		10.00	"	10.00
Student Art Show of the Confederacy		40.00	"	40.00
United Daughters of the Confederacy	50.00	25.00	"	25.00
			To Schedule 13	50.00
				50.00

SCHOOL OF MEDICINE					
Dermatology and Syphilology	1,100.00	600.00	To Schedule 1	1,100.00	600.00
Jewish Social Service	4,166.68	5,000.00	"	4,999.92	4,166.76
Markle Foundation	120.00	215.83			335.83
Obstetrics and Gynecology	371.49	41.66			413.15
Research in Surgery					
SCHOOL OF PHARMACY					
Cullen, F. J.		25.00			25.00
D. C. Women's Pharmaceutical Auxiliary		100.00			100.00
LECTURE					
Dorsey, Harryman—Public Law Lectures	930.84		Lectures	816.63	930.84
Howard, Frank—Industrial Research Lectures	4,435.95				3,619.32
OTHER					
Administrative Reserve	3.18		To Exhibit B	3.18	
Ellison, Newell W.	2,500.00		To Schedule 13	2,500.00	
Freeman, Dr. Walter	5,000.00	4,000.00	To Schedule 12	9,000.00	
Key Deposits	367.75		Refunds	226.00	141.75
University Press—"The Supreme Court"	82.94				82.94
TOTALS—EXHIBIT C	24,175.46	11,680.49		21,194.09	14,661.86

CURRENT FUNDS RESTRICTED (Continued)

For the Year Ended August 31, 1949

AGENCY FUNDS

Funds	Balance August 31, 1948	Receipts	Disbursements		Balance August 31, 1949
Colonial Review		191.00			191.00
Courier		2,341.76	Withdrawals	1,975.80	365.96
Engineers' Club Room	199.93				199.93
Federal Public Housing Authority Rent, Veterans Housing	25.48		To U. S. Government	25.48	
Flower Fund	154.50		Wreaths	22.50	132.00
Gift Shop		6,003.56	Withdrawals	3,238.82	2,764.74
Perihan Yamulky	733.00	2,790.00	Withdrawals	3,386.50	136.50
Swisher History Club	120.75				120.75
Women's Board Drama Club		702.40			702.40
Women's Board Hospital Benefit	14,545.30	9,582.95	Withdrawal	14,555.30	9,572.95
TOTALS—EXHIBIT C	15,778.96	21,611.67		23,204.40	14,186.23

CHANGES IN PRINCIPAL OF LOAN FUNDS

For the Year Ended August 31, 1949

Funds	Balance August 31, 1948	Additions		Refunded to U. S. Government	Balance August 31, 1949
		Income of D.C.—D.A.R. Endowment Fund	Interest on Loans		
D.C.—D.A.R. Loan Fund.....	2,666.76	197.69	.96	.....	2,865.41
George Washington Law Association Loan Fund.....	768.00	.....	1.73	.....	769.73
Home Economics Loan Fund.....	352.35	.....	.....	.....	352.35
Kelllogg Medical School Loan Fund.....	15,920.83	.....	424.37	.....	16,345.20
Sutherland Medical School Loan Fund.....	1,200.00	.....	.....	.....	1,200.00
University Loan Fund.....	8,095.85	.....	29.16	.....	8,125.01
War Loan Fund.....	11,036.96	.....	.....	3,176.66	7,860.30
TOTALS—EXHIBIT D.....	40,040.75	197.69	456.22	3,176.66	37,518.00

SCHEDULE 11

CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS

For the Year Ended August 31, 1949

Funds	Balance August 31, 1948	Additions				Loss on Sale of Investments	Balance August 31, 1949
		Gifts	Investment Income	Gain on Sale of Investments	Transferred from Schedule 10		
UNRESTRICTED	300.00						300.00
Acker	581.20						581.20
Alumni	186,749.38						186,749.38
Campaign	220,155.76						220,155.76
Corcoran	41,570.40						41,570.40
Davis		33,601.15					33,601.15
Goddard	1,000.00						1,000.00
Haggett	19,215.50						19,215.50
King	15,000.00						15,000.00
Reichelderfer	2,110.00						2,110.00
Sanders	17,525.56						17,525.56
Subscription Gifts	1,500.00						1,500.00
Syms		11,104.14					11,104.14
Teller	1,524.06						1,524.06
Trustees	5,000.00						5,000.00
Weddell	26,891.46						26,891.46
Withers							
Woodhall	50,000.00						50,000.00

RESTRICTED

FELLOWSHIP

King.....	39,457.56					59.97	73,821.42
Sanders.....	213,090.12						213,030.15

PROFESSORSHIP

Alumni.....	829.49	.18					829.67
Carroll.....	500.00						500.00
Congressional.....	158,709.04						158,709.04
Dewey.....	167,246.71						167,859.31
Elton.....	14,508.19		612.60				14,508.19
Fry (controlled by the University).....	18,592.22		5,879.49				24,471.71
Fry (controlled by National Savings and Trust Co.).....	101,559.98			1,001.61			102,561.59
Yulter.....	5,000.00						5,000.00

CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS (Continued)

For the Year Ended August 31, 1949

Funds	Balance August 31, 1948	Additions				Loss on Sale of Investments	Balance August 31, 1949
		Gifts	Investment Income	Gain on Sale of Investments	Transferred from Schedule 10		
RESTRICTED (Continued)							
School							
Government							
Scottish Rite.....	1,000,000.00						1,000,000.00
Medicine							
Borden.....	3,169.07		85.30				3,254.37
Collins.....	2,828.00						2,828.00
Cooper.....	10,000.00						10,000.00
Friedman.....		101.50	166.54		9,000.00		9,268.04
Gardner.....	4,486.55						4,486.55
Lewis.....	32,298.60						32,298.60
School of Medicine Fund.....	7,861.00	220.00					8,081.00
Sharpe.....	8,162.75			171.38			8,334.13
Pharmacy							
Gibbs.....	10,000.00						10,000.00

CHANGES IN PRINCIPAL OF ENDOWMENT FUNDS (Continued)

Funds	Balance August 31, 1948	Additions				Loss on Sale of Investments	Balance August 31, 1949
		Gifts	Investment Income	Gain on Sale of Investments	Transferred from Schedule 10		
RESTRICTED (Continued)							
SCHOLARSHIP							
Andrews.....	5,121.23						5,149.41
Bartuch.....	15,347.50	4,685.56		28.18			20,033.06
Carr.....	48,608.91						48,608.91
Carter, H. H.....	5,000.00						5,000.00
Carter, M. M.....	1,000.00						1,000.00
Columbian Women Scholarship Funds							
Brown.....	1,200.00						1,200.00
Chamberlin.....	2,100.00						2,100.00
College Women's.....	500.00						500.00
Founders of Columbian Women.....	5,000.00						5,000.00
Herron.....	5,000.00						5,000.00
Knapp.....	5,000.00						5,000.00
Wilson.....	1,000.00						1,000.00
Davis.....	1,000.00	1,000.00					1,000.00
Dorsey.....	2,000.00	1,000.00					1,000.00
Frohman.....	1,000.00	500.00					1,500.00
Hampel.....	5,031.97						5,031.97
Harvey.....	5,959.61						5,959.61
Kendall.....	1,500.00						1,500.00
Marthouse.....	2,839.80						2,839.80
Pearson.....	50,000.00						50,000.00
Powell.....	10,000.00						10,000.00
Shepard.....	7,434.20						7,434.20
Spencer.....	2,000.00						2,000.00
Stone.....	7,529.55						7,529.55
Swisher.....	2,500.00						2,500.00
Washington.....	1,953.13						1,953.13
Woodhull.....	1,660.00						1,660.00

CHANGES IN PRINCIPAL OF PLANT FUNDS--UNEXPENDED

For the Year Ended August 31, 1949

Funds	Balance August 31, 1948	Additions			Deductions	Balance August 31, 1949
		Gifts	Investment Income	Other		
PLANT ADDITIONS						
Class of 1929 Women's Unit No. 3..... Transferred to Surplus—Exhibit B.	414.08		12.42		426.50	185.40
Field House.....	180.00		5.40			
General Building..... Transferred to Surplus—Exhibit B	360.30		10.81		371.11	
George Washington Memorial Auditorium equipment purchased	7,824.95		234.75		2,906.63	5,153.07
Hospital Equipment..... Equipment purchased		\$4,965.65			54,965.65	
Law School Expansion Transferred from Schedule 10—Page 4	5,264.80		192.33	2,500.00		7,957.13
Library Book Funds						30.40
Brock, Mabel C.....	43.57				13.17	
Books purchased.....	175.00				175.00	
Brooklyn Alumni Club.....	50.00					50.00
Books purchased.....	58.75					58.75
Builer, Henry F.....	503.21					429.91
Class of 1945.....	25.00					25.00
Council of Religious Organizations.....	45.00				73.30	45.00
Books purchased.....	225.00					225.00
Davis, Harry C.....	100.00					100.00
Engineers'.....						100.00
Highland Society.....						7.02
Hospital.....						9.80
Louise M. Harding Foundation.....						

Noyes, Theodore W.	4,778.79								
Books purchased								72.03	4,706.76
Rosen, Dr. John N.	298.73								58.23
Books purchased								490.50	
United Daughters of the Confederacy									2.00
Transferred from Schedule 10—Page 4								50.00	
Books purchased								48.00	
Ohio Section of the G. W. Memorial Association	1,614.94					48.45			1,663.39
Pairo	128,132.63								
Gain on sale of investment							2,494.00		130,626.63
School of Engineering Building	78,431.63								80,784.58
School of Medicine Building	617.81				1,100.00				
Student Union Furnishings	1,829.33					46.28			1,764.09
Furnishings (equipment) purchased						54.88			
Women's Activities Building	4,751.24			179.73		145.20		1,884.21	
	235,741.58		56,655.38			3,103.47	5,044.00	61,426.10	5,076.17
									239,118.33
RESERVE FOR PROTECTION OF INVESTMENTS	3,516.02								
Investment income in excess of 3%						2,535.02			
Loss on sale of investments								4,907.75	1,143.29
TOTAL—EXHIBIT F	239,257.60		56,655.38			5,638.49	5,044.00	66,333.85	240,261.62

GIFTS AND GRANTS

For the Year Ended August 31, 1949

CURRENT FUNDS		
EDUCATIONAL AND GENERAL		
UNRESTRICTED—SCHEDULE 1		14.61
Estate of Susan Whitney Dimock.....		
RESTRICTED—SCHEDULE 1		
General—School of Engineering—John E. Walsh.....	250.00	
Alumni Office Expense—General Alumni Association.....	100.00	
Library Books—Society of Sigma Xi.....	12.50	362.50
Activities Relating to Instruction		
Hospital—Harvard Mutual Foundation.....	825.00	
William Conrad.....	25.00	
Charles Armstrong.....	20.00	
Perry H. Thomas.....	12.50	
	<u>\$92.50</u>	
	28.76	911.26
Post-Graduate Medical Education—J. C. Collison.....		
		494,135.06
RESTRICTED—SCHEDULE 10—Page 1		
Organized Research—various donors.....		
RESTRICTED—SCHEDULE 10—Page 4		
Fellowship—Dr. Freeman and Watts.....	600.00	
Scholarship—Anonymous.....	72.00	
Charles W. Dorsey.....	336.00	
Northern Baptist Convention.....	200.00	
Zonta Club.....	300.00	
Prize—Alpha Delta Pi Sorority.....	10.00	
Chi Omega Sorority.....	25.00	
D. C. Daughters of the American Revolution.....	15.00	
Delta Zeta Sorority.....	10.00	
Ellsworth—Mrs. Fritz von Briesen.....	25.00	
Kappa Kappa Gamma Sorority.....	10.00	
Pi Beta Phi Sorority.....	70.00	
Sigma Kappa Sorority.....	10.00	
Student Art Show—Harryman Dorsey.....	40.00	
United Daughters of the Confederacy.....	25.00	
Research—John and Mary K. Marble Foundation.....	600.00	
School of Medicine—Research in Gynecology—Dr. Roger O'Donnell, Jr.....	5,000.00	
Obstetrics and Gynecology—Henry L. Darnes.....	150.00	
Research in Surgery—Paul H. Burton, Jr.....	65.83	
Research in Pathology—Dr. Joe M. Van Woy.....	25.00	
School of Pharmacy—Dr. C. W. Moore's Pharmacy.....	16.66	
Research in Pathology—Dr. J. C. Collison.....	25.00	
Other—Dr. Walter Freeman.....	25.00	

ENDOWMENT FUNDS (Schedule 12)

UNRESTRICTED				
Goddard Endowment Fund—Bequest of Frederick J. Goddard.....		33,601.15		
Teller Endowment Fund—Bequest of John D. and Mary L. Teller.....		<u>11,104.14</u>		44,705.29
RESTRICTED				
PROFESSORSHIP				
Alumni Professorship Fund—various donors.....		.18		
SCHOOL OF MEDICINE				
Freeman Memorial Fund—George A. Rogers.....	101.50			
School of Medicine Fund—Dr. J. Philip Fairchild.....	<u>200.00</u>			
Dr. Bernhard Kaufman.....	220.00	321.50		
SCHOLARSHIP				
Bartsch Scholarship Fund—Dr. Anna Bartsch-Dunne.....	4,685.56			
Dorsey Scholarship Fund—Harryman Dorsey.....	<u>1,000.00</u>			
Hampel Scholarship Fund—Evelyn Hampel Young.....	500.00	6,185.56		
MISCELLANEOUS				
Graduate Endowment Fund—				
Dr. Bernhard Kaufman.....	20.00			
Dr. Samuel Topperman.....	10.00			
Morgan M. Gilbert.....	80.00			
Rowland Lyon.....	10.00			
Elizabeth Larrick.....	10.00			
Dr. Esterlino E. Santemma.....	25.00			
Ellis B. Miller.....	10.00			
various donors.....	<u>20.00</u>	185.00	6,692.24	51,397.53

GIFTS AND GRANTS (Continued)

For the Year Ended August 31, 1949

PLANT FUNDS (Exhibit G) (Schedule 13)

Hospital—United States Government—excess of appraised value over cost.....			6,841,396.50
Hospital Equipment—D. C. Chapter, National Foundation for Infantile Paralysis.....	2,100.00		
Hospital Equipment Fund—various donors.....	54,965.65		57,065.65
Library Book Funds			
Hospital Library Fund—Edward A. Cafritz.....	150.00		
“Charlotte B. Jameson.....	10.00		
Rosen, Dr. John N.....		160.00	410.00
School of Medicine Building Fund—Alumni Club of Puerto Rico.....	1,000.00		
“Dr. H. B. Fermlaglich.....	100.00		1,100.00
Veterans Housing—United States Government—appraised value.....		150,000.00	150,000.00
Veterans Housing Equipment—United States Government—appraised value.....		20,000.00	20,000.00
Women's Activities Building Fund—Faculty members of “Faculty Follies”.....	169.73		
“Physical Education Alumni.....	5.00		
“Columbian Women.....	5.00		
			179.73
TOTAL GIFTS AND GRANTS			7,070,151.88

DESCRIPTION OF LOAN FUNDS

August 31, 1949

DISTRICT OF COLUMBIA D. A. R. LOAN FUND Created in 1938 from income of the D. C.—D. A. R. Endowment Fund. To be loaned to descendants of patriots of the American Revolution.....	2,865.41	
GEORGE WASHINGTON LAW ASSOCIATION LOAN FUND Created in 1941 by gift of the George Washington Law Association to be loaned to students of the Law School.....	769.73	
HOME ECONOMICS LOAN FUND Created in 1940 by the D. C. Home Economics Association to be loaned to senior girls majoring in home economics.....	352.35	
KELLOGG LOAN FUND Created in 1942 by gift of the W. K. Kellogg Foundation to be loaned to students of the School of Medicine.....	16,345.20	
SUTHERLAND LOAN FUND Created in 1941 by gift of Rose L. Sutherland and other donors, to be loaned to students of the School of Medicine.....	1,200.00	
UNIVERSITY LOAN FUND Created in 1928 by the University to make short time loans for educational purposes.....	8,125.01	
WAR LOAN FUND Created in 1942 by the United States Government to be loaned to students in technical and professional fields of national defense.....	7,860.30	

DESCRIPTION OF ENDOWMENT FUNDS

August 31, 1949

UNRESTRICTED FUNDS

ACKER FUND Bequest of George N. Acker, M. D., received in 1924, the income only to be used.....	300.00
ALUMNI ENDOWMENT FUND Created by the Class of 1920, to be added to by succeeding graduating classes, the income only to be used.....	581.20
CAMPAIGN FUND Created in 1923-24 by gifts of various donors, the income only to be used.....	186,749.38
CORCORAN FUND Gift of William W. Corcoran of \$112,000, and gifts of other donors between the years 1871-86, the income only to be used.....	220,155.76
DAVIS FUND Bequest of Harry C. Davis, received in 1946, the income only to be used.....	41,570.40
GODDARD ENDOWMENT FUND Bequest of Frederick J. Goddard, received in 1949, the income only to be used.....	33,601.15
HAGGETT FUND Created in 1941 by gift of Isabelle Barnes Haggett, the income only to be used.....	1,000.00
KING, W. B. FUND Created in 1941 by gift of William B. King, the income only to be used.....	19,215.50

REICHELDERFER FUND	
Gift of Mary M. Reichelderfer in 1945, in memory of her husband, Luther H. Reichelderfer, the income only to be used.....	15,000.00
SANDERS ENDOWMENT FUND	
Gift of J. Sanders in 1945, the income only to be used.....	2,110.00
SUBSCRIPTION GIFTS FUND	
Gifts of various donors during the years 1845-51, the income only to be used. (Formerly called the Poindexter Endowment Fund).....	12,525.56
SYMS FUND	
Bequest of Samuel Syms in 1891, the income only to be used.....	1,500.00
TELLER FUND	
Bequest of John D. Teller and Mary L. Teller, received in 1949, the income only to be used.....	11,104.14
TRUSTEES FUND	
Created by the Board of Trustees of the University in 1932, the income only to be used.....	1,524.06
WEDDELL FUND	
Bequest of Alexander W. Weddell, received in 1948, the income only to be used.....	5,000.00
WITHERS FUND	
Gift of John Withers of \$16,000, and gifts of various donors during the years 1851-70, the income only to be used. (Formerly called the Forty Thousand Dollar Endowment Fund).....	26,891.46
WOODHULL FUND	
Bequest of Margaret Willent Woodhull, received in 1946, the income only to be used.....	50,000.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1949

FELLOWSHIP FUND

KING FELLOWSHIP FUND

Created in 1928 by bequest of Isabella Osborn King, the income to be used for a fellowship in biology 73,821.42

SANDERS FELLOWSHIP FUND

Bequest of Addie Sanders in 1928 in memory of her brother, Thomas Bradford Sanders, the income to be used for annual fellowships in various academic fields of study 213,030.15

PROFESSORSHIP FUNDS

ALUMNI PROFESSORSHIP FUND

Gifts of various alumni since 1911, the income to be used for an alumni professorship in mathematics 829.67

CARROLL PROFESSORSHIP FUND

Created by Mary A. Sharpe in 1928, in memory of Mitchell Carroll, the income to be used for a chair in archeology 500.00

CONGRESSIONAL PROFESSORSHIP FUND

Gift of the United States in 1832, by Act of Congress, of \$25,000 in city lots in Washington, D. C., to be sold, the proceeds invested, and the income to be used for professorships 158,709.04

DEPEW COURSE IN PUBLIC SPEAKING FUND

Created by May Depew in 1936, the income to be used for a course to be known as the "Chauncey M. Depew Course in Public Speaking"; income in excess of \$6,000 annually to be added to principal 167,859.31

ELTON PROFESSORSHIP FUND

Bequest of Romeo Elton of Exeter, England, in 1872, the income to be used for a professorship to be called the "Elton Professorship of Mental and Moral Philosophy" 14,508.19

FRY PROFESSORSHIP FUNDS

Bequest of Annabel Lee Fry, received in 1945, in memory of her husband, Dr. Henry D. Fry, the income to be used for a professorship in physiology 102,561.59
Created in 1945 from income of the fund, the income of the two funds to be used for a professorship in physiology 24,471.71

ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE UNIVERSITY OF MICHIGAN, 1948-49. THE UNIVERSITY OF MICHIGAN LIBRARY

SCHOOL FUNDS

GOVERNMENT

SCOTTISH RITE ENDOWMENT FUND

Created in 1928 by the Supreme Council of the Ancient and Accepted Scottish Rite of Freemasonry of the Southern Jurisdiction of the United States of America, as a permanent memorial to George Washington, The Mason, the income to be used to maintain a School of Government.....

1,000,000.00

MEDICAL

BORDEN MEDICAL FUND

Created in 1932 by William Cline Borden, M. D., and Jennie Ella Borden, the income to be applied to lectureships to be known as the "William Cline Borden Lectures on Surgery or Medical Science." Any income not required annually shall be added to principal.....

3,254.37

COLLINS MEDICAL RESEARCH FUND

Created in 1946 by gifts of various donors in memory of Dr. James Lloyd Collins, the income to be used for special research in surgery.....

2,828.00

COOPER MEDICAL RESEARCH FUND

Bequest of Eleanor J. Cooper in 1905, on certain terms since modified by the Supreme Court of D. C. as follows: the income to be used toward the establishment and maintenance, in connection with the Medical Department of the University, of a Research Laboratory, the work of this laboratory to be devoted to the investigation of the nature, causation, prevention, and cure of malaria and other infectious and contagious diseases.....

10,000.00

FREEMAN MEMORIAL FUND

Created by Dr. Walter Freeman in 1949, in memory of Keen Freeman, the income to be used for research in psychosurgery.....

9,268.04

GARDNER MEDICAL SCHOOL FUND

Bequest of William D. Gardner, received in 1928, the income to be used for the School of Medicine.....

4,486.55

LEWIS MEDICAL SCHOOL FUND

Bequest of Samuel E. Lewis, received in 1925, the income to be used for the School of Medicine.....

32,298.60

SCHOOL OF MEDICINE ENDOWMENT FUND

Created in 1940 by the gifts of various donors, the income to be used for the School of Medicine.....

8,081.00

SHARPE MEDICAL SCHOOL FUND

Created by gifts of Mary A., Elizabeth M., and Sallie Sharpe in 1924, the income to be used for the School of Medicine.....

8,334.13

PHARMACY

GIBBS PHARMACY FUND

Gift of M. G. Gibbs in 1927, the income to be used to aid in establishing and maintaining a commercial pharmacy course in connection with the School of Pharmacy.....

10,000.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1949

HOSPITAL FUNDS

CHAPMAN HOSPITAL FUND Bequest of Mrs. Susanna A. Chapman in 1911, the income to be used for the purposes of the free wards of the University Hospital	1,225.90
GENERAL HOSPITAL ENDOWMENT FUND Created in 1929 by gifts of various donors, the income to be used for the benefit of the University Hospital	1,200.00
HOUSER HOSPITAL FUND Bequest of E. Keller Houser, received in 1944, the income to be used to endow a room in memory of his daughter, Anna Victoria Houser	2,500.00
KIMMEL HOSPITAL FUND Bequest of Annie Kimmel, received in 1932, the income to be used for the benefit of the University Hospital	3,071.70
KUHLBANK HOSPITAL FUND Bequest of Freda Kuhlbank, received in 1930, the income to be added to the principal until the principal shall be large enough to maintain a bed in the White Ward of the Hospital to be known as the "Freda Kuhlbank Bed"	1,180.70
NATIONAL PARK SEMINARY HOSPITAL FUND Gift of students of National Park Seminary of Forest Glen, Maryland, in 1906, the income to be used toward the maintenance of a bed in the University Hospital	500.00
REINHARDT HOSPITAL FUND Bequest of Luisa Wynne Reinhardt in 1922, the income to be used for the University Hospital	500.00
TREE HOSPITAL FUND Created in 1911 by bequest of Lambert M. Tree, in memory of his mother, Mrs. Laura M. Tree, the income to be used to maintain one or more beds in the University Hospital, to be known as the "Laura M. Tree Bed or Beds"	10,000.00
WOODBURY HOSPITAL FUND Bequest of A. Woodbury in 1909, the income to be used for the reception and treatment of female patients in the University Hospital	10,000.00

PRIZE FUNDS

BURNS MEMORIAL AWARD FUND

Gift of Persia Burns in 1937 in memory of her son, Byrne Thurtell Burns, the income to be used for an annual award in chemistry.....

1,000.00

COWLES PRIZE FUND

Created in 1943 by John Henry Cowles, the income to be used for annual awards in the School of Government.....

3,000.00

CROISSANT PRIZE FUND

Bequest of DeWitt Clinton Croissant, received in 1941, the income to be used to award an annual prize for excellence in dramatics or dramatic studies.....

1,000.00

CUTTER PRIZE FUND

Gift of Marion Kendall Cutter in 1902, in memory of E. K. Cutter, the income to be used for an annual award for excellence in the study of English.....

1,000.00

DAVIS PRIZE FUND

Gift of Isaac Davis in 1847, the income to be used for annual awards to members of the senior class who have made the greatest progress in elocution since their connection with the University.....

700.00

ESSARY PRIZE FUND

Gift of Helen Essary Murphy in 1948 in memory of her late husband, Jesse Frederick Essary, the income to be used for an annual award in journalism.....

3,000.00

EVANS MEMORIAL AWARD FUND

Created in 1937 by gifts of friends of Joshua Evans III, the income to be used to establish a prize, as a memorial to an "outstanding life," to be awarded annually "to that man in the graduating class who has demonstrated his signal ability in the social and political sciences and who has given promise of the interpretation of that ability in good citizenship among his fellows".....

1,200.00

FITCH PRIZE AWARD

Gift of James F. Fitch in 1883 in memory of Willie E. Fitch, the income to be used for an annual award to a senior student for the best general examination in chemistry.....

1,000.00

GODDARD PRIZE FUND

Gifts of Mary W. Goddard, Alice Douglas Goddard, and Frederick J. Goddard, in 1923, in memory of Morgan Richardson Goddard, Edward Carrington Goddard, and James Douglas Goddard; added to in 1941 by a gift of Frederick J. Goddard in memory of Alice Douglas Goddard. The income shall be used to award four cash prizes annually to the students making the highest averages in commerce, French language and literature, pharmacy, and American literature, respectively.....

5,519.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1949

PRIZE FUNDS (Continued)

HUBBARD PRIZE FUND Gift of Gertrude M. Hubbard in 1907, in memory of her husband, Gardiner G. Hubbard, the income to be used for an annual award for excellence in American history.....	1,000.00	
LARNER PRIZE FUND Bequest of John B. Larner in 1933, the income to be used for an annual award in the Law School.....	800.00	
ORDRONAUX PRIZE FUND Bequest of John Ordronaux in 1909, the income to be used for annual awards in the Law and Medical schools.....	5,000.00	
RUGGLES PRIZE FUND Gift of William Ruggles in 1859, the income to be used for an annual award for excellence in mathematics.....	500.00	— 88 —
STAUGHTON-ELTON PRIZE FUND Created by gift of Romeo Elton of Exeter, England, in 1860, the income to be used for annual awards for excellence in the Latin and Greek languages, one to be called the Staughton Prize in Latin, the other the Elton Prize in Greek.....	500.00	—
STERRETT PRIZE FUND Gift of the Reverend J. MacBride Sterrett, in 1911, in memory of his son, J. MacBride Sterrett, Jr., the income to be used for books to be awarded annually to the student obtaining the highest average in general physics.....	300.00	
SWISHER PRIZE FUND Gift of Charles Clinton Swisher in 1941, the income to be applied yearly to enlarging the sum set apart for the Historical Prize established in his name by the Historical Club, December 7, 1936.....	1,000.00	
WALSH PRIZE FUND Gift of Thomas F. Walsh in 1901, the income to be used for an annual award for the best essay on some topic in Irish history.....	1,000.00	
WEDDELL PRIZE FUND Gift of Virginia Chase Weddell in 1923, the income to be used to award annually the Alexander Wilbourn Weddell Prize to the student submitting the best essay upon the general subject of the promotion of peace among the nations of the world.....	5,000.00	

SCHOLARSHIP FUNDS

ANDREWS MEMORIAL SCHOLARSHIP FUND

Gift of Belle Fisk Andrews in 1920 in memory of her husband, Byron Andrews, the income to be used for scholarships "for ambitious and needy students of English, Latin, journalism, history, literature, or political science."

5,149.41

BARTSCH SCHOLARSHIP FUND

Created by gift of Dr. Anna Bartsch-Dunne in 1946, the income to be used for a scholarship for a woman in the School of Medicine and an internship for a woman in the University Hospital.

20,033.06

CARR SCHOLARSHIP FUND

Created by bequest of Emma K. Carr in 1932, the income to be used for scholarships for young white men.

48,608.91

CARTER, H. H., SCHOLARSHIP FUND

Gift of Maria M. Carter in 1896, in memory of her husband, Henry Harding Carter, the income to be used for scholarships in civil engineering.

5,000.00

CARTER, M. M., SCHOLARSHIP FUND

Gift of Maria M. Carter in 1871, the income to be used for scholarships for young men.

1,000.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1949

SCHOLARSHIP FUNDS (Continued)

COLUMBIAN WOMEN FUNDS

BROWN SCHOLARSHIP FUND

Created by the College Women's Club of Washington, D. C., in 1925, in memory of Elizabeth V. Brown, the income to be used for scholarships in the School of Education.....

1,200.00

CHAMBERLIN SCHOLARSHIP FUND

Created by the Columbian Women of The George Washington University in 1932 in memory of Grace Ross Chamberlin, the income to be used for scholarships for young women.....

2,300.00

COLLEGE WOMEN'S SCHOLARSHIP FUND

Gift of the College Women's Club of Washington, D. C., in 1926, the income to be used for scholarships.....

500.00

FOUNDERS OF COLUMBIAN WOMEN SCHOLARSHIP FUND

Created by the Columbian Women of The George Washington University in 1920, the income to be used for scholarships for women in Columbian College.....

5,000.00

HAMPTEL SCHOLARSHIP FUND

Gift of Evelyn Hampel Young in 1948 in memory of her mother, Anna Spickel Hampel, the income to be used for Scholarships for married women in the School of Education or Columbian College.....

500.00

HERRON SCHOLARSHIP FUND

Created by the Columbian Women of The George Washington University in 1925 in memory of Lillian Young Herron, the income to be used for scholarships for women in Columbian College. (Formerly Third Columbian Women Scholarship Fund).....

5,000.00

KNAPP SCHOLARSHIP FUND

Gift of the Columbian Women of the George Washington University in 1915, in memory of Nellie Maynard Knapp, the income to be used for scholarships for women.....

5,000.00

WILSON SCHOLARSHIP FUND

Gift of Elizabeth Wilson in 1926 in memory of her parents, James D. and Myrtie H. Wilson, the income to be used for scholarships in the School of Medicine.....

1,000.00

DAVIS SCHOLARSHIP FUND Gift of Isaac Davis in 1869, the income to be used for scholarships.....	1,000.00
DORSEY SCHOLARSHIP FUND Created in 1947 by gift of Harryman Dorsey in memory of Charles Worthington Dorsey, the income to be used for scholarships.....	3,000.00
FARNHAM SCHOLARSHIP FUND Gift of Mrs. Robert Farnham in 1871, the income to be used for scholarships in Columbian College.....	1,000.00
HARVEY SCHOLARSHIP FUND Bequest of Emma Elizabeth Harvey, received in 1923, in memory of her daughter, Elma Lewis Harvey, the income to be used for scholarships in Columbian College for young women of the Protestant faith and of the Caucasian race.....	5,031.97
KENDALL SCHOLARSHIP FUND Gift of Amos Kendall in 1869, the income to be used for a scholarship now designated by the Board of Trustees as one of the two High School Scholarships assigned to Central High School.....	5,959.61
MOREHOUSE SCHOLARSHIP FUND Created by gift of A. Morehouse in 1861, the income to be used for scholarships for undergraduates intending to enter the Christian ministry.....	1,500.00
PEARSON SCHOLARSHIP FUND Bequest of Dr. Paul Pearson, received in 1944, the income to be used for scholarships in the School of Pharmacy.....	2,839.80
POWELL SCHOLARSHIP FUND Gift of Levin M. Powell in 1886, the income to be used to train young men for entrance in the United States Naval Academy or to fit them to become mates and masters in the Merchant Marine Service of the United States.....	50,000.00
SHEPARD SCHOLARSHIP FUND Bequest of Lula M. Shepard, received in 1946, the income to be used for scholarships in the School of Government.....	10,000.00

DESCRIPTION OF ENDOWMENT FUNDS (Continued)

August 31, 1949

SCHOLARSHIP FUNDS (Continued)

SPENCER SCHOLARSHIP FUND Created by gift of Louisa J. Spencer in 1918, the income to be used for scholarships.....	7,434.20
STONE SCHOLARSHIP FUND An anonymous gift in 1893 in memory of Mary Lowell Stone, the income to be used for scholarships for women students of science in Columbian College.....	2,000.00
SWISHER SCHOLARSHIP FUND Created by gift of Dr. Charles Clinton Swisher in 1941, the income to be used to award scholarships in Medieval History.....	7,529.55
WALKER SCHOLARSHIP FUND Gift of William Walker in 1824, the income to be used for scholarships for undergraduates intending to enter the Christian ministry.....	2,500.00
WITHINGTON SCHOLARSHIP FUND Gift of the New York Baptist Theological Seminary, on behalf of John Withington, in 1830, the income to be used for scholarships.....	1,953.13
WOODHULL SCHOLARSHIP FUND Bequest of Ellen M. F. Woodhull, received in 1921, the income to be used for scholarships in Columbian College...	600.00

LIBRARY FUNDS

HOWARD LIBRARY FUND Gift of Colonel Deane Childs Howard in 1943 in memory of Captain Deane Childs Howard, Jr., the income to be used to purchase books for the Library	5,000.00
MEYER LIBRARY FUND Gift of Eugene Meyer in 1944, the income to be used to purchase books for the Library	1,000.00
NOYES LIBRARY FUND Bequest of Theodore W. Noyes, received in 1947, the income to be used to purchase books for the University Library	10,000.00
SWISHER ALCOVE BOOK FUND Gift of Dr. Charles Clinton Swisher in 1941, in trust for the Historical Society of the University, the income to be used to purchase books for the Swisher Alcove in the Library	2,000.00

MISCELLANEOUS FUNDS

DISTRICT OF COLUMBIA D. A. R. ENDOWMENT FUND Created in 1926 by gifts of chapters in the District of Columbia, the income to be added to the D.C.—D.A.R. Loan Fund	5,000.00
GRADUATE ENDOWMENT FUND Created by the Class of 1926 to be used for the acquisition of sites, erection of buildings, and maintenance and purchase of equipment. Only the income may be used until Fund reaches \$50,000 when income, and principal over \$50,000, may be used	12,724.57

RESERVES FOR PROTECTION OF INVESTMENTS OF ENDOWMENT FUNDS

RESERVE FOR PROTECTION OF CONSOLIDATED ENDOWMENT FUNDS INVESTMENTS Created from gains arising from the sale of investments, and by setting aside annually a portion of the net income of Consolidated Endowment Funds Investments	57,251.35
RESERVE FOR PROTECTION OF SCOTTISH RITE ENDOWMENT FUND INVESTMENTS Created from gains arising from the sale of Scottish Rite Investments	59,561.38

DESCRIPTION OF PLANT FUNDS

August 31, 1949

PLANT ADDITIONS

FIELD HOUSE FUND	185.40
Created by gifts of the Class of 1946 to assist in building a field house.....	
GEORGE WASHINGTON MEMORIAL FUND	5,153.07
Created in 1937 by transfer of the assets of the George Washington Memorial Association to the University, to be used toward the erection and equipping of the auditorium.....	
LAW SCHOOL EXPANSION FUND	7,957.13
Created in 1945 by gifts of various donors, to be used for the acquisition of land and the erection of a building or buildings for the use of the Law School.....	
LIBRARY BOOK FUNDS—GIFTS OF VARIOUS DONORS	
BUTLER, HENRY F., LIBRARY FUND.....	50.00
BROCK, MAHEL C., LIBRARY FUND.....	30.40
CLASS OF 1945 LIBRARY FUND.....	58.75
COUNCIL OF RELIGIOUS ORGANIZATIONS LIBRARY FUND.....	429.91
DAVIS, HARRY C., LIBRARY FUND.....	25.00
ENGINEERS' LIBRARY FUND.....	45.00
HELLENIC SOCIETY LIBRARY FUND.....	225.00
HERRST LIBRARY FUND.....	100.00
HOSPITAL LIBRARY FUND.....	160.00
LINCOLN ARC WELDING FOUNDATION LIBRARY FUND.....	7.02
MURDOCK, MRS. JAMES O., LIBRARY FUND.....	9.80
NOYES, THEODORE.....	4,706.76
ROSEN LIBRARY FUND.....	58.23
UNITED DAUGHTERS OF THE CONFEDERACY LIBRARY FUND.....	2.00

OHIO SECTION OF THE GEORGE WASHINGTON MEMORIAL ASSOCIATION FUND	
Created in 1941 by gift of the Ohio Section of the George Washington Memorial Association, to be used to erect a memorial.....	1,663.39
PAIRO FUND	
Created in 1931 by Richard E. Pairo, by devise and bequest, to be used for athletics.....	130,626.63
SCHOOL OF ENGINEERING BUILDING FUND	
Created in 1946 by gift of Mr. and Mrs. Charles H. Tompkins, to be used toward the erection of a School of Engineering Building.....	80,784.58
SCHOOL OF MEDICINE BUILDING FUND	
Created in 1945 by gifts of various donors, to be used toward the erection of a School of Medicine building.....	1,764.09
WOMEN'S ACTIVITIES BUILDING FUND	
Created in 1939 by gifts of various donors to erect a women's activities building.....	5,076.17
RESERVE FOR PROTECTION OF INVESTMENTS OF CONSOLIDATED PLANT FUNDS	
Created from the income of Consolidated Plant Funds Investments.....	1,143.29

THE
GEORGE
WASHINGTON
UNIVERSITY

BULLETIN

FIELDS OF RESEARCH

THE GRADUATE COUNCIL

1950



WASHINGTON, D. C.

JULY 1949

THE GRADUATE COUNCIL

The fields of research listed in this announcement have been authorized by the Graduate Council as those in which doctoral investigations and dissertations may be undertaken. The supporting fields of study required of all candidates for the degree of Doctor of Philosophy are specified for each individual student by his Consultative Committee before admission to study under the Council.

This list of fields is subject to such change as the educational resources of the University may direct. The prospective student may address preliminary inquiries concerning his research interests to the member of the Council who is in charge of the field, or to the Chairman of the Graduate Council.

FIELDS OF RESEARCH

ANATOMY

Directed by WARREN ANDREW, Professor of Anatomy.

BACTERIOLOGY

(1) Intestinal Microbiology; (2) Immunity in Tuberculosis; (3) Problems in Medical Bacteriology with especial reference to Diagnostic Methods and Immunization. *Directed by* LELAND WILBUR PARR, Professor of Bacteriology.

(1) Intestinal Microbiology; (2) Immunology: Antigenic Analysis. *Directed by* ANGUS MACIVOR GRIFFIN, Professor of Bacteriology.

Bacterial Nutrition. *Directed by* CARL ROBERT BREWER, Chief, Bacterial Nutrition Branch, Basic Sciences Division, Chemical Corps, Camp Detrick.

Anti-Biotics. *Directed by* HENRY WELCH, Chief, Division of Penicillin Control and Immunology, United States Food and Drug Administration.

Virology. To be arranged.

BIOCHEMISTRY

(1) Carbohydrate Metabolism; (2) Nutrition (emphasis on vitamins); (3) Pathological Chemistry. *Directed by* JOSEPH HYRAM ROE, Professor of Biochemistry.

Lipids. *Directed by* CARLETON RAYMOND TREADWELL, Associate Professor of Biochemistry.

Tissue Respiration. *Directed by* DEAN BURK, Chemist, National Cancer Institute.

BOTANY

(1) Mycology; (2) Plant Pathology. *Directed by WILLIAM WEBSTER DIEHL, Adjunct Professor of Mycology.*

Taxonomy. *Directed by LYMAN BRADFORD SMITH, Professorial Lecturer on Taxonomy; Associate Curator, Division of Phanerogams, Department of Botany, Smithsonian Institution.*

CHEMISTRY

Organic: (1) Identifications; (2) Syntheses. *Directed by COLIN MACKENZIE MACKALL, Professor of Chemistry.*

Organic. *Directed by SAMUEL NATHANIEL WRENN, Professor of Chemistry.*

Inorganic. *Directed by CHARLES RUDOLPH NAESER, Professor of Chemistry.*

Physical: Solubilities. *Directed by BENJAMIN DOUGLASS VAN EVERA, Professor of Chemistry.*

ECONOMICS

International: (1) International Economic Theory; (2) International Trade; (3) International Finance. *To be arranged.*

Economic Theory: (1) Economic Fluctuations; (2) History of Economic Thought. *Directed by ARTHUR EDWARD BURNS, Professor of Economics.*

Economic Policy: (1) Economic Planning; (2) Public Finance. *Directed by DONALD STEVENSON WATSON, Professor of Economics.*

(1) National Income; (2) Public Finance. *Directed by GERHARD COLM, Professorial Lecturer in Economics; Economist, Council of Economic Advisers, Executive Office of the President.*

HISTORY

European: Nationalism. *Directed by* ELMER LOUIS KAYSER, Professor of European History.

United States: (1) Social; (2) Economic. *Directed by* WOOD GRAY, Professor of American History.

United States: (1) Diplomatic; (2) Political. *Directed by* HOWARD MAXWELL MERRIMAN, Professor of American Diplomatic History.

Latin American: (1) Spanish and Portuguese Colonies in America; (2) Nineteenth and Twentieth Century History; (3) Inter-American Relations. *Directed by* ALVA CURTIS WILGUS, Professor of Latin American History.

LAW

Trade Regulation: Trade Practices and Anti-Trust Laws. *Directed by* SAUL CHESTERFIELD OPPENHEIM, Professor of Law.

Jurisprudence. *Directed by* CHARLES SAGER COLLIER, Professor of Law.

LITERATURES AND LANGUAGES

English: (1) Sixteenth Century Drama; (2) Seventeenth Century Drama. *Directed by* FRED SALISBURY TUPPER, Professor of English Literature.

English: Eighteenth Century Drama. *Directed by* GEORGE WINCHESTER STONE, JR., Professor of English Literature.

American: Literary Nationalism. *Directed by* ROBERT WHITNEY BOLWELL, Professor of American Literature.

German: (1) Germanic Philology; (2) Comparative Philology. *Directed by* EDWARD HENRY SEHRT, Professor of German.

Romance: (1) Romance Linguistics; (2) Old and Middle French; (3) Old Spanish. *Directed by* HENRY GRATTAN DOYLE, Professor of Romance Languages.

Romance: Modern Spanish Literature. *Directed by* ANTONIO ALONSO, Associate Professor of Spanish.

Romance: Latin American Literature. *Directed by* ALBERTO VÁZQUEZ, Lecturer on Spanish American Literature; Chief, North and West Coast Branch American Republic Area Division, United States Department of State.

Romance: (1) Sixteenth Century French Literature; (2) Modern French Literature. *Directed by* LOUIS CLARK KEATING, Professor of Romance Languages.

Romance: Seventeenth Century French Literature. *Directed by* MERLE IRVING PROTZMAN, Professor of Romance Languages.

MATHEMATICS

Algebra: Finite Groups. *Directed by* FRANCIS EDGAR JOHNSTON, Professor of Mathematics.

Geometry: Differential Geometry. *Directed by* JAMES HENRY TAYLOR, Professor of Mathematics.

Analysis: Infinite Series. *Directed by* FLORENCE MARIE MEARS, Professor of Mathematics.

PATHOLOGY

Comparative Pathology. *Directed by* THOMAS CARLYLE JONES, Major, United States Army; Chief, Veterinary Pathology Section, Army Institute of Pathology.

PHARMACOLOGY

(1) Chemotherapy; (2) Drug Metabolism. *Directed by* PAUL KENNETH SMITH, Professor of Pharmacology.

PHYSICS

Experimental: Electronics. *Directed by* THOMAS BENJAMIN BROWN, Professor of Physics.

Electron Optics. *Directed by* LADISLAUS LASZLO MARTON, Physicist, Atomic Physics, Electronics Division, National Bureau of Standards.

Theoretical: (1) Relativity; (2) Nuclear; (3) Astrophysics. *Directed by* GEORGE ANTONY GAMOW, Professor of Theoretical Physics.

Theoretical: The Solid State. *Directed by* RAYMOND JOHN SEEGER, Chief, Mechanics Division, Naval Ordnance Laboratory.

PHYSIOLOGY

(1) Nutrition and Endocrines; (2) Cardiovascular System.
Directed by ERRETT CYRIL ALBRITTON, Professor of Physiology

(1) Blood Pressure Studies; (2) Neuro-Muscular Studies.
Directed by CHESTER ELWOOD LEESE, Professor of Physiology

Environmental Human Physiology. *Directed by* ALBERT
RICHARD BEHNKE, Captain, Medical Corps, United States
Navy; Research Executive, Naval Medical Research Institute

Physiology of Nutrition. *Directed by* JAMES MANSON HEN-
LEY, Assistant Chief, Laboratory of Biochemistry and Nutrition
and Chief, Section on Physiology and Biochemistry of Nutrition,
National Institutes of Health.

POLITICAL SCIENCE

United States: Legislative Process. *Directed by* WARREN
REED WEST, Professor of Political Science.

International: (1) International Politics and Organization; (2)
Far East. *Directed by* WILLIAM CRANE JOHNSTONE, Jr.,
Professorial Lecturer in Political Science.

International Law: (1) War and Neutrality; (2) Arbitration.
Directed by JOHN WITHROW BREWER, Professor of International
Law.

Public Administration: Governmental Organization.
arranged. To be

PSYCHIATRY

(M.D. degree required for admission.)
OVERHOLSER, Professor of Psychiatry.

Directed by WINFRED

PSYCHOLOGY

(1) Personnel Psychology; (2) Counseling and Guidance.
Directed by MITCHELL DREESE, Professor of Educational Psy-
chology.

Psychological Measurements.
Professor of Psychology.

Directed by THELMA HEN-

STATISTICS

(1) Theoretical: Probability and Sampling; (2) Applied: Econometrics. *Directed by* FRANK MARK WEIDA, Professor of Statistics.

ZOOLOGY

Invertebrate: Morphology and Embryology. *Directed by* DONNELL BROOKS YOUNG, Professor of Zoology.

Invertebrate: Molluscan Morphology and Physiology. *Directed by* PAUL SIMON GALTSOFF, Senior Biologist, Fish and Wildlife Service, United States Department of the Interior.

Parasitology: Parasitic Protozoa. *Directed by* WILLARD HULL WRIGHT, Professorial Lecturer on Medical Zoology; Scientist Director, United States Public Health Service, and Chief, Zoology Laboratory, National Institutes of Health.

THE GEORGE WASHINGTON UNIVERSITY
1821

The Junior College
1930

Columbian College (the Senior College)
1821

The Graduate Council
1893

The School of Medicine
1825

The Law School
1865

The School of Engineering
1885

The School of Pharmacy
1906

The School of Education
1907

The School of Government
1928

The Division of University Students
1930

The Division of Special Students
1944

The Summer Sessions
1916

The University Hospital
1898

SUMMARIES OF
DOCTORAL DISSERTATIONS

1947 and 1948

THE
GEORGE
WASHINGTON
UNIVERSITY
BULLETIN

SUMMARIES OF
DOCTORAL DISSERTATIONS

1947 and 1948

WASHINGTON, D. C.

PUBLISHED IN MCMXLIX

BY THE UNIVERSITY

THE
SOCIETY OF
THE FRIENDS OF THE
AFRICAN
AND
INDIAN
PEOPLES

OF THE
UNITED STATES OF AMERICA

OF THE
UNITED STATES OF AMERICA

PREFATORY NOTE

This number of the University BULLETIN contains summaries of the dissertations which have been accepted during 1947 and 1948, inclusive, in partial satisfaction of the requirements for the degrees of Doctor of Philosophy, Doctor of Juridical Science, and Doctor of Education at The George Washington University. The original dissertations are filed in the University Library, where they may be consulted by students interested in examining the complete texts.

AVAILABILITY OF DISSERTATIONS

Dissertations listed in this and earlier issues may be ordered copied at cost by the non-profit Bibliofilm Service, care U. S. Department of Agriculture Library, Washington 25, D. C., in bibliofilm or photoprint form.



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SUBMITTED FOR
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1947 and 1948

obtain financing may merely indicate that other competing uses are preferable economically. Similarly, the fact that a small borrower must pay a relatively high rate of interest may reflect simply large elements of cost and risk, not an institutional gap. When we speak of such a gap, we should confine our meaning to that of an institutional maladjustment which serves to defeat successful operation of the normal functions of the interest rate. An obvious example was the situation prevailing in the years prior to the Second World War, when a surplus of savings striving for liquidity and assured returns existed concurrently with an inadequate supply of capital funds for small or risky ventures. The absence of adequate institutions for converting these savings into the needed capital supply constituted a financial gap.

Three general types of business financing must be provided. These are equity or ownership capital, loan capital, i.e., borrowings employed for medium-term or long-term capital purposes, and short-term or temporary credit. The major source of equity capital in the past has been earnings retained in the business, supplemented by surplus funds invested directly by friends of the entrepreneur or other individuals, and funds obtained from all types of investors through the medium of investment bankers. Generally speaking, small business enterprises have had access to only the first two sources, and in recent years these sources have been greatly restricted by virtue of increased tax rates and other adverse influences. An important financial gap exists in the supplying of equity capital to small enterprises.

Because of the nature of small business with its large operating risks and heavy dependence upon a very few men, long-term loans to it really belong in the equity category, from the standpoint of suppliers of capital. At any rate, a gap has existed in this area closely similar to that in equity financing. As for alleged gaps in the supply of medium-term capital loans, much controversy exists upon which the experience we shall review will shed some light. It is true, however, that small loans of this type have normally carried relatively high rates. Finally, as for the supply of short-term credit, despite disagreement in some quarters the weight of evidence indicates that no gap of consequence presently exists, except in those isolated communities where effective banking competition is not present.

Most proposals for governmental assistance in filling financial gaps fall into one of three classes: proposals for direct advances by government agencies, for guaranty or insurance by the government of advances made by private institutions, and for the establishment of regional investment banks, usually with some private participation. However, by no means all proposals for action call for governmental financial assistance. Thus, some plans contemplate the improvement of private financial institutions; while others envisage Government assistance of

a technological character which would reduce the risks of small business, or tax relief which would promote the building up of capital from retained earnings.

Governmental financial assistance to private enterprise is by no means solely a recent development. However, in this country, until the 1930's, assistance had consisted mainly of subsidies to particular industries which it was desired to develop and of loans to agriculture. Stress upon the need for assistance to small business enterprises as a class is of comparatively recent origin. This does not mean that the problems of small business financing had not impressed some observers, or that no private institutions undertook to meet the need. After about 1910, a steady growth occurred in finance companies which offered loans especially adapted to the needs and hazards of small business, and increasing numbers of commercial banks moved to broaden their traditional lending policies. In addition, numerous local organizations for financing new enterprises were established in the interest of community industrial development. In general, however, prior to the 1930's the continued rapid growth of the economy tended to obscure such problems as were known to exist.

Before 1930, the principal experience of the Federal Government in financing private enterprise came from the activities of the War Finance Corporation during and after the First World War, and from the operations of the Federal Land Banks and the Federal Intermediate Credit Banks in financing agriculture. The depression of 1930 brought a rapid multiplication of such agencies, notably in the fields of agricultural and home mortgage financing. In agricultural financing, Government agencies have provided a material competitive stimulus to private institutions, and have been instrumental in lowering mortgage financing rates and in promoting sound lending practices, such as the regular amortization of long-term loans. The government's agricultural credit system now includes both cooperatively owned agencies operating upon business principles and direct government agencies which assume above-normal risks in the furtherance of social objectives. In home mortgage financing, two government-sponsored systems have developed, a cooperative mortgage banking system making rediscounting privileges available to member institutions and a direct government agency which insures the loans of private institutions. The Government's activities in home mortgage financing appear both to have stimulated the total volume of lending and to have exercised a beneficial influence on lending practices.

A few foreign governments had created special industrial lending institutions even prior to 1900, and in more recent years, especially since 1930, governmental financial assistance to private business has been very general in foreign countries. The actual volume of such

lending, however, has not been large, and a special committee of the League of Nations concluded in 1939 that "the small volume of credit extended does strongly suggest that there is no great unsatisfied legitimate demand at the present time." The committee added that serious inadequacies did appear to be developing in the supply of equity capital to small business. Relatively few institutions which attempted to cope with this problem had been created. Since 1944 a government-owned Industrial Development Bank in Canada, has attempted to face the problem, but its early results are inconclusive. During its first year of operation it made no equity investments.

In the United States, experience in government financing of business under peacetime conditions is confined mainly to the lending operations of the Federal Reserve Banks and the Reconstruction Finance Corporation, undertaken as emergency measures during the depression of the 1930's but still in existence. These agencies are restricted in their activities—the former, employing in part privately owned capital, to loans for working capital purposes with maturities not in excess of five years; and the latter, to secured loans with no fixed limit on maturities but with relatively few loans in practice permitted to exceed five years. Financing in each case may be direct, shared with a private institution, or merely guaranteed to a specified extent. During 1945, the Reconstruction Finance Corporation introduced what is known as a Blanket Participation Agreement by means of which banks may obtain the automatic guaranty of up to 75 per cent of loans meeting certain simple requirements and not exceeding \$100,000 in amount or ten years in maturity.

In the face of the large expectations held by the promoters of these two lending programs, the most impressive fact which stands out from review of their experience is the relatively small total of loans actually made. Some analysts have concluded from this experience that no really significant unsatisfied demand for loans has existed. Others have suggested that the loaning standards employed must have been excessively strict. This is a difficult controversy to resolve, for intangible elements of judgment enter strongly into a decision whether a given business is creditworthy. However, despite legitimate criticism of procedures which were often cumbersome and expensive to small business, the basic factor appears to have been a lack of unsatisfied demand for the type of loan offered. This was in part due to an increasing willingness during the period under review of private financial institutions to make funds available for other than short-term, self-liquidating purposes. In turn, this reflected increasing confidence, as the effects of the great depression disappeared, and other factors such as more lenient bank examination policies, as well as the competitive spur to private institutions of the activities of the government lending agencies. Beyond

this, the relatively small volume developed by the government agencies indicated that the type of financing authorized by Congress was not what was really wanted. These agencies offered loans, not equity capital, and they offered a business transaction set up to provide reasonable assurance of repayment, not a subsidy.

During the Second World War, important innovations in financing were adopted as a means of insuring an adequate volume of war production, in particular the full utilization of small manufacturers with limited financial resources. Very large direct advance payments against specific war production contracts were made by the military services. These advance payments were highly important in obtaining production promptly, but favorable experience with them is of limited significance to the present subject, for the military services were engaged in financing their own customers when there was virtually no limit to the production which was required or to the funds which were available to pay for it. More important to our study is the guaranteed loan program initiated in 1942. Under this program the military services were empowered to guarantee in whole or in part, using the Federal Reserve Banks as their agents, loans made by private financial institutions. It was intended to utilize the facilities of the commercial banking system to arrange loans for large numbers of small manufacturers and subcontractors which it was proving impracticable to finance through the mechanism of advance payments. It was frankly expected that the loans guaranteed would involve large risks, such that private institutions could not be expected to make them without guaranty. A graduated schedule of guaranty fees was established, varying according to the percentage of guaranty requested, in order to encourage maximum participation by the private institutions.

A very large total of financing was made available through the guaranteed loan program, and it unquestionably proved a useful wartime financial tool. Losses were negligible, and these "V loans" clearly facilitated the supplying of credit to essential enterprises which it would otherwise have been difficult to finance. However, when we consider this experience in the light of possible usefulness of its technique for meeting peacetime financing problems, two major qualifications are apparent. In the first place, much of the smoothness with which the program operated was due to the obvious urgency of the wartime problems which had to be met. There was on this account strong pressure toward workable compromise and prompt action and relatively little opportunity for bureaucratic quibbling or perfectionism. Secondly, wartime lending was distinguished by the existence of a tangible and unquestioned criterion upon which decisions as to the extension or rejection of credit could in the final analysis be based. This was the simple test of essentiality of the borrower's production to the prosecution of

the war. In contrast, the criteria normally proposed for peacetime lending, such as "creditworthiness", appear vague indeed.

Another wartime lending program of interest is that of the Smaller War Plants Corporation. This program stressed promotion of the welfare of small business by enabling small concerns to obtain a larger participation in war production, and it was aggressively pushed by a large field organization. The Corporation was willing to accept heavy risks, yet the volume of loans made by it actually grew but slowly and remained relatively small throughout the war. Its lending activities were consolidated with those of the Reconstruction Finance Corporation in January 1946. Its principal contribution to lending technique was its stress upon the need for provision to small business of technical advice and managerial assistance as well as financial aid.

Despite a strong tendency to require the protection of a government guaranty in connection with war financing and the apparent popularity with small banks of the Reconstruction Finance Corporation's blanket guaranty, it does not follow that significant numbers of private bankers are abdicating their risk-taking function. On the contrary, steady transformation of banking practices to meet present-day needs appears to be in progress. Term loans have continued to grow in importance, and other specialized lending techniques, including those particularly applicable to small business, have spread widely. Practices of many bankers have undoubtedly been liberalized as a consequence of wartime experience in looking at a weak financial statement with the thought of working the problem out rather than turning the borrower away. In addition, banking trade associations are engaged in a vigorous campaign to spur on private lending, in particular term loans and loans to small business. In many centers banks have organized credit pools which stand ready to facilitate the handling of loans too risky or too large for the originating banks.

The experience here reviewed confirms rather definitely the view that no significant gap now exists in the provision of either short-term credit or medium-term loan capital, even for small business. The relatively meager lending accomplishments of the Federal Reserve Banks and the Reconstruction Finance Corporation must, in view of the strong efforts made by them, be taken to indicate the general adequacy of private institutions. However, despite this present adequacy it appears wise to retain one government agency, preferably the Reconstruction Finance Corporation, to operate in this general area, serving partly as a supplementary credit mechanism available in emergencies and partly as a continuing spur to private institutions. Such an agency may also be helpful in the development of improved lending techniques and of methods for lowering costs to small borrowers.

On the other hand, nothing in the experience here surveyed affords

justification for challenging the general belief that a significant gap now exists in facilities for the provision of equity capital to smaller businesses. In fact, no direct experience has been had in this field by our public agencies, nor have private sources attempted seriously to develop the field. It is indeed surprising that the problem of providing equity capital has received so little attention, for obviously inability to secure adequate equity capital is a highly important factor in failure to obtain bank credit. Lack of agitation in this respect raises the question of how far the prevalent undercapitalization of small businesses may actually be due to unwillingness of the entrepreneur to dilute his own equity in the business or to jeopardize his control by accepting the capital of others. Such factors are probably fully as important as the more theoretical objection that provision of risk capital by the Government is incompatible with an economic system based upon private enterprise.

Neither does the experience reviewed cast any doubt upon the existence of a gap in facilities for long-term loans to small business. Some small progress has been made in recent years toward narrowing this gap, for the development of a large volume of medium-term loans has tended to push some commitments over into the long-term category. However, this gap is closely related to that in equity financing. Unfortunately, it has received very little more attention.

Granting the existence of important gaps in the availability to small business of long-term capital financing, equity or loan, and in view of the continued failure of effective private action to develop in this area, we would appear to require no further demonstration of the need for governmental action. The type of governmental assistance which is desirable in order to narrow these gaps is another question. It certainly need not be limited to financial assistance. For one thing, we must consider the possible effect of such financial assistance upon the *net* volume of investment, i.e., whether provision of capital by the Government to a given enterprise would have the effect of restricting other undertakings. More important, direct financing of equity risks by the Government is clearly not in the long run compatible with a free enterprise economy, and direct government financing of what are essentially equity risks, although in the form of long-term loans, is almost equally illogical. Sharing of ownership by the Government is not a satisfactory solution, and neither is direct subsidy, with the new problems it creates.

Fortunately, although direct government financial assistance be ruled out, several indirect means of assistance are feasible. One such measure would be a program to improve the management of small business, through provision of information, advice, and technological assistance, thereby reducing the heavy operating risks which are a principal handicap of such businesses in securing financing. In a limited way, such a

program has already been undertaken by the Department of Commerce. Secondly, much may be accomplished by income tax relief designed to restore to small businesses the ability to accumulate capital more rapidly from retained earnings.

Finally, to provide action more positive in character than the above, provision should be made in the tax laws for organization on a favorable basis of private local and regional investment companies designed especially for supplying capital financing to small business enterprises. The Government should arrange to make senior capital available to these private institutions, if needed.

NICHOLAS ROWE: A STUDY IN THE DEVELOPMENT OF THE PATHETIC TRAGEDY

by DONALD BETTICE CLARK •

Nicholas Rowe was born June 30, 1674 at his maternal grandfather's home in Little Barford, Bedfordshire. His mother was the former Elizabeth Edwards, daughter of the lord of the manor, Little Barford. His father, John Rowe, a younger son of an ancient Devonshire family, had left the western shire and had successfully pursued his rising star in the profession of law at the Middle Temple, London. In the year 1692 he died, leaving his only son, the future dramatist, 300 pounds a year and his chambers in the Temple, for the youth was now reading in law at the Middle Temple. At an early age, Nicholas had been placed in a private grammar school in Highgate, and from there he had proceeded to study under the tutelage of the famous Dr. Busby at Westminster. At the age of seventeen he entered Middle Temple, where after studying law for five years he was called to the bar.

His practice was evidently lucrative enough to warrant his marriage in 1698 to Antonia Parsons and to support his son John, who was born a year later. Although literature beckoned, his family responsibilities must have dictated to his desires, because Stephen Hales, author of a short *Life of Rowe* prefixed to *Musarum Lachrymae*, a memorial volume of poems published by Rowe's friends at his death in 1718, tells us that "while he still kept his Chambers, a play or two of his came upon the Stage".

Rowe's appearance upon the dramatic scene precisely at the beginning of the century, as well as any intrinsic merit in the plays themselves, must be reckoned with in attempting to account for his phenomenal success. By 1700 tragedy as the Restoration audience had known it was as good as dead. The audiences desired and paid for lighter entertainment, a fact possibly induced by the war with France and the unsettled political situation at home. Genest's survey indicates that tragedy was popular in the following order: (1) adaptations of Shakespeare, (2) pathetic drama of the type written by Otway, Banks, and Southerne, and (3) the heroic tragedy of Dryden, Lee, and Settle. Settle, in this period, however, was writing nothing but dramatic entertainments with music. Dryden died the first year of the century, but his creative work in tragedy had stopped with *Cleomenes* in 1692. Congreve, still an important figure in drama, had written only one tragedy, *The Mourning Bride*, four years before the turn of the century. John Crowne had written his last play, *Caligula*, in 1698 and was to die in 1703. Only Southerne and Congreve remained on the scene in 1700 as mute remind-

• A.B. 1938, Wilmington College; Ed.M. 1940, University of Cincinnati; Ph.D. conferred May 26, 1947.

ers of the tragic years gone by. The time was ripe for an ambitious dramatist to discern the taste of the people and to cater to it if he would find for himself a place in the annals of the stage. Rowe arrived at this fortunate time.

His first play, *The Ambitious Stepmother*, was produced at Lincoln's Inn Fields theatre in December 1700. It was an heroic tragedy, closely following the lines laid down by Otway and Lee in their earlier efforts at this type. In the prologue Rowe openly admitted Otway as his master. Like most beginning writers, Rowe has synthesized materials from several sources: Biblical, historical, and dramatic. The over-all plot which he follows loosely is Biblical: the securing of David's crown for Solomon through the efforts of his mother Bath-sheba and Zadok the high priest (II Samuel 11; I Kings 1:5-49). At several points Rowe's characterization and narrative closely parallel the Biblical account. It also seems evident that Rowe has utilized additional details from Justinus' *Historiae philippicae*, xxxviii:10-xxxix, 3. The characterization of the heroine Artemisa is closely modeled on the heroine of Pierre Corneille's *Rodogune*, a dramatization of the Justinus history. Several episodes appear in common in both Rowe's and Corneille's plays. It appears highly probable that Lee's *Mithridates* and Otway's *Caius Marius* and *Venice Preserv'd* have contributed not only incidents but also the emotional tone which is early established in *The Ambitious Stepmother*.

With the production of *Tamerlane*, probably during the first week of January 1702, the new playwright came into his own as a prominent writer. Cast, like its predecessor, in the outward form of an heroic play, *Tamerlane* was actually a hymn of praise to the Whig party headed by Rowe's hero, William III. Certainly, the play was considered such by the eighteenth century, which for eighty years produced it annually on November 4th and 5th, the anniversaries of William's birth day and his landing on English soil. Rowe's main source for the play hitherto unnoticed, was a work, in Rowe's personal library, by the well-known Elizabethan Richard Knolles, entitled *The General History of the Turkes*. *Tamerlane* parallels Knolles' account of the history of Tamerlane and Bajazet very closely. Furthermore, Rowe's characterization of Tamerlane is the same as that of Knolles, a characterization so unlike the traditional one that Rowe's contemporaries were startled at the un-Mohammedan tolerance. Genest's statement that Rowe "has borrowed something but not much from Saunderson's *Tamerlane the Great*" appears, upon comparison, to be an overstatement. There are no similarities. Miltonic imagery flashes throughout the play. On the whole, *Tamerlane* in its more fluent moments shows an advance over *The Ambitious Stepmother*, but it shows less dramatic power.

Feeling established, Rowe forsook the law and gave his whole attention

tion to his first love, the theatre. The first fruit of this union was *The Fair Penitent*, put on the boards at Lincoln's Inn Fields sometime between March 8 and 13, 1703. The theatre-goers, remembering the splendid majesty of Tamerlane and the rant of Bajazet, were taken aback by this play which postulated a woman as its central figure. It was the first of Rowe's "she-tragedies", a name which he himself gave to the type. Long after the political allusions of Tamerlane had lost their point, *The Fair Penitent* was furnishing the great tragediennes of the eighteenth and even the early nineteenth centuries a starring role. The play is an adaptation of Massinger's *Fatal Dowry*, with the emphasis shifted from the hero of the earlier work to the heroine of Rowe's opus. Massinger's characters have been completely saturated with pathos, a treatment Rowe found at hand in Otway's *Orphan* and *Venice Preserv'd*. In Calista and Lothario, later to reappear as Clarissa and Lovelace in Richardson's novel, Rowe has created his two most dynamic characters. *The Fair Penitent* shows possible influence from John Ford's *Love's Sacrifice* and 'Tis Pity She's A Whore. There emerges from the play the first clearly defined instances of sentimentalism in Rowe's effeminizing his male characters. Also, *The Fair Penitent* shows Rowe moving into the pathetic field, terrain which Otway and Banks had prepared but which Rowe was to bring to its highest fruition.

On November 23, 1705 Rowe returned to the stage of the Haymarket Theatre with *Ulysses*, outwardly an heroic tragedy but actually an attempt to pen a play according to the neo-classic rules. The action of the main plot is taken from Homer's *Odyssey*; that of the sub-plot from Corneille's *Le Cid*. The attempt was not a happy one, and theatrical records indicate little contemporary success and few revivals for the play.

Again at the Haymarket Theatre on November 25, 1707, he essayed another heroic play, *The Royal Convert*. Gibbon's offhand statement that the source was Procopius' *History of the Wars* can hardly be given credence. The obvious source of the play is Corneille's *Polyeucte*: plot, theme, characterization, and verbal similarities are too common to be denied. Inserted into the Corneille material are reminiscent incidents from Rowe's earlier plays, and Otway's touch is again felt. A new element of didacticism has appeared, however, which destroys the dramatic impact of the central figure, Ethelinda. She is too saintly, a trait which renders her impassive and negates any possible tragic conflict.

In 1709, Rowe published a six volume edition of Shakespeare's plays, and by virtue of this work is the first of a long line of Shakespearean editors. The effort is not particularly noteworthy from a modern point of view except in the fact that Rowe shows a remarkable individuality and a freedom from the neo-classic criticism of Shakespeare, typical of that day. His biography of the Elizabethan remained the authoritative

one of the eighteenth century, being appropriated by Pope, Hamner, Warburton, Dr. Johnson, and Steevens. On the whole, modern editors grant Rowe's edition the praise that it preserved data which was in danger of disappearing and further, that it presented a much needed foundation for future Shakespearean study.

On February 2, 1714, his most famous tragedy, *Jane Shore*, was first acted at Drury Lane. Genest writes of a run of nineteen nights, a record which in the theatrical history of those days could scarcely be paralleled by any other success. Rowe advertised the play to be written in imitation of Shakespeare, but the ovation it received was not due to his endeavoring to achieve this or to the drawing power of the bard. Its success lay in the fact that it was the dramatist's most pathetic "she-tragedy". Rowe's primary source was Sir Thomas More's *History of Richard III*, the source of the Holinshed treatment which formed the basis of Shakespeare's *Richard III*, in which Jane is only incidental to the general character study of the sadistic king. Rowe uses many of the same incidents which Shakespeare had utilized, but he uses them to incite pathos for Jane. It is possible that Rowe knew the anonymous *Tragedie of Richard the Third*, but there are few resemblances. There can be little doubt, however, that Rowe availed himself of Thomas Heywood's *Edward IV* in the characterization of the tearful heroine, in dramatic technique, in Jane's early life, in Bellmour and Shore, and in several verbal borrowings. There, likewise, can be little doubt that Rowe has taken situations and lines from John Banks' *Unhappy Favourite* and *Virtue Betray'd*. Though essentially *Jane Shore* is not Shakespearean, Rowe justifies his claim in adapting Shakespearean materials in writing a historical play along the Shakespearean pattern, and in taking over the Council scene from *Richard III* as well as echoing lines and images from the Elizabethan.

A year later in April 1715, his last tragedy, *Lady Jane Gray*, appeared. The play is a heterogeneous mixture of borrowings from John Banks' two plays, *The Innocent Usurper* and *The Island Queens*, Addison's *Cato*, and Rowe's earlier *Fair Penitent* and *Royal Convert*. This assimilated material is grafted onto the historical narrative of Jane Gray which Rowe found in Bishop Burnet's *History of the Reformation*. The tragedy achieved a moderate success but was far below the standard of its immediate predecessor, *Jane Shore*.

Flushed with success and financially secure because of the political honors George I bestowed upon him, Rowe married Anne Devenish in 1717. He was not to enjoy his success and new-found domesticity long, because he fell ill during the winter of 1718. The contemporary newspapers announce his death on December 6, 1718, and on December 18 his burial in Westminster Abbey among the poets of England.

In the short space of two years following his death, Rowe had taken

his place in the annals of English drama as a playwright of the passions, a writer of pathetic tragedy. Fifty years later, dramatic critics were still testifying to his popularity as a pathetic writer. For a figure whose ultimate niche in dramatic history must be small and obscure in a relatively shadowed corner of the hall of fame, Rowe's influence was impressive throughout the century, not only in England but also in France and particularly in Germany where Lessing found him useful in breaking the chains with which French neo-classicism had bound German drama.

Allardyce Nicoll has stated that "Rowe is a dramatist whose works must fully be mastered before any true appreciation of eighteenth century tragic development can be possible." Such a conclusion is valid in two respects. (1) Rowe, whose work began the century, serves as a confluence of the intellectual and dramatic tributaries of the earlier century; and at the same time he introduces most of the innovations which distinguish the eighteenth century type of tragedy from that of the Restoration and Elizabethan periods. (2) Rowe's significance in eighteenth century tragedy cannot be based upon any claim for greatness in his writing; rather, it finds support in the immense popularity of his plays throughout the century, particularly *Jane Shore* and *The Fair Penitent*, the two which indisputably secure him a seat of modest honor in the annals of dramatic history.

The study of Rowe's successive plays has revealed him to be an experimenter. His career opened upon the heroic note, still a popular inheritance from Dryden and other Restoration dramatists. Even here, however, in *The Ambitious Stepmother* and *Tamerlane*, one can see his dissatisfaction with heroic tragedy. In the first of these, the pathetic element in Cleone, a love-sick maiden, received his closest attention; in the second play, the heroic form is used only as a vehicle for political allegory and implication.

Possibly feeling that the best escape from the heroic genre lay in developing the potentialities of the earlier Cleone of *The Ambitious Step-mother* and the Arpasia of *Tamerlane*, Rowe concentrated his attention on depicting in his third effort, *The Fair Penitent*, a pathetic female—Calista. Here in this play and to an even greater extent in *Jane Shore*, we find the characteristics of the "she-tragedy" clearly outlined. One characteristic is the centering of the play about a feminine protagonist rather than a masculine one. The inevitable concomitant of this emphasis upon the feminine is an effeminizing of the hero. Such a process can be seen adumbrated in Otway and in John Banks, Restoration forerunners of Rowe, but in Rowe the softening of the hero is pushed to its farthest limits. At times, indeed, the line between masculine and feminine characterization, especially in Rowe's pathetic tragedies, is scarcely discernible.

A second characteristic of the type is to be seen in the fact that the

"she-tragedy" was aimed at the feminine part of the audience, a new social factor in the theatre brought about by the rising importance of the merchant class.

A third characteristic, growing out of the first two, is an emphasis upon sentimentalism. In Rowe, it is not a belief in the philosophy of sentimentalism—the doctrine of confidence in the essential goodness of human nature—rather it is a sentimental artifice, an excessive flow of tears to enhance the pathetic atmosphere of the play. Also, to achieve this pathos, Rowe exploits the "rape" motif in six out of seven of his tragedies. This device is distinctly related to his centering his plays about a heroine and aiming them at a feminine audience.

Rowe's experimentation in pathos gave rise to a phenomenon unusually rare in early eighteenth century tragedy—a return to the Elizabethans other than Shakespeare.

Having settled upon the "she-tragedy" as his forte and having learned the qualities of its nature from the early Heywood and the later Otway, Southerne, and Banks, Rowe added his own personal touch to the species—a didactic moralism. This intent had been present in Heywood by implication but it had been completely absent in Otway, Rowe's avowed master. In Rowe, however, the moral purpose is unmistakable. The most cursory reading of his seven tragedies reveals that they are actually little more than theatrical sermons. One feels that he used drama with the sincere intention of holding up a pattern, an example to encourage his audiences to a moral way of life.

If the tragedy is to be an example to his audience, the moral lesson inculcated must be applicable to that audience, and this application is made plausible by lowering the social level of his characters. Rowe approaches this lowering of the scale cautiously. Lillo, three decades later, can safely reduce his hero to the lower classes, but Lillo is not writing at the close of the Restoration.

Rowe, though not a profound dramatist in any sense, had thus served to bridge the distance between the Elizabethan drama and the domestic tragedy of the mid-eighteenth century. He had acted as a guardian of English dramatic tradition. His work made possible Lillo's *London Merchant*, but his direct influence upon that play is intangible. A realistic element—free of sentimentalism and pathos—had entered with *The London Merchant*, and at this point the current of English tragedy has left the narrow banks of the pathetic and has begun its broad, slow meandering which will flow unhindered until Ibsen and then diverge into the channels of naturalism, symbolism, the problem play, and then many other branches which attempt to restore purpose and meaning to tragedy as a dramatic form. Among these can be found occasional reminiscences of the old pathetic tragedy so fascinating to the eighteenth century theatre-goer who enjoyed weeping with *Jane Shore*.

SELF-SELECTION OF DIET AS AN INSTRUMENT FOR INVESTIGATING THE NUTRITIONAL REQUIREMENTS OF RATS

by ABRAHAM DURY •

STATEMENT OF THESIS

It has been reported by Richter that: (a) animals, particularly rats, were able to make qualitative and quantitative selections from a choice of several dietary constituents and to continue the selections over many days; and (b) that changes in the quantitative self-selection of certain substances following distortions in the normal physiology reflected changes in the animal's internal environment for which the animal was trying to compensate.

It is the purpose of this thesis to study whether the expanded self-selection of diet is feasible as an instrument of research. It was proposed to study this problem as follows:

1. To determine whether rats, both immature and adult, can survive and grow under a regime of self-selection of diet, i.e., the adaptation of the rat to a "free-choice" environment.
2. To observe what dietary constituents rats select, at what general level, and with what variability when in a "free-choice" environment.
3. To determine whether a significant difference in levels of intake of any dietary constituent could be shown when a difference in conditions was imposed as between two groups of rats in a "free-choice" environment.

HISTORICAL BACKGROUND

The first experiments involving a form of self-selection of diet were done by two pioneer investigators in nutrition, Osborne and Mendel. In the course of experiments on adequate and inadequate diets, they found that choices were made which tended to promote normal growth in young animals, and to maintain the adult animal in good health. Mitchell and Mendel, in experiments with rats on the choice of diets differing only in type of completeness, stated that even in "... synthetic mixtures which appear to the senses to be essentially alike, rats and mice make selections which are advantageous to their nutritive condition".

Franke and Potter showed that rats are able to detect small quantities of selenium in their diets, and avoid such diets.

Davis showed that if the children were permitted to choose their food at meal times from a large selection they grew normally and were healthy. These children were selecting unbalanced portions of a meal

• A.B. 1936, Brooklyn College; M.S. 1940, New York University; Ph.D. conferred May 28, 1947.

which over a period of time, constituted a balanced diet which supported growth.

Dove felt that the manifestation of the choice of foods is measurable and is a distinctive characteristic of individuals. Selection of a given food was found to be dependent upon a number of variables.

Jukes, studying the ability of chicks to correct an imposed dietary deficiency, found that chicks did not choose the necessary diet with the deficient components added which would have alleviated their nutritional deficiency.

Kon and Clark and Clausen found that only some rats from a group made successful selections of the few items offered for "free-choice".

The following is a summary of the findings of Richter and his associates during the years 1937 to 1943.

1. Normal rats make beneficial selections from purified substances when these are offered to the rats in separate containers.
 2. Rats on vitamin deficient diet will seek vitamin(s) or substance(s) which will help replace the vitamin deficiency.
 3. Appetite for carbohydrate and fat always shows an inverse relationship.
 4. Self-selection of diet is more efficient than the regular stock diet. Bulk is apparently not necessary; and the animals take a higher percentage of fat in their diet by selection than is given in synthetic stock diets.
 5. Rats deprived of endocrine secretions which regulate metabolism of carbohydrate, fat, protein, or electrolytes will select substances which compensate for loss of the beneficial functions of these secretions as regards these substances.
 6. When the techniques of self-selection of diet have been properly studied and standardized, it may be possible to use this method to bioassay hormone and vitamin preparations.
- Powell used an extensive array of salt and vitamin solutions as well as a separation of the three foodstuffs for the rats to select their diet. She pointed out that eight rats per cage were inadequate for stable curves, and indicated that the high degree of variability in her self-selection data probably could have been reduced by increasing the number of rats per group.

MATERIALS AND METHODS

THE CAGE

The ordinary metal rabbit cage was adapted, with a few changes, to serve in these experiments.

THE SOLUTION BOTTLES—SALTS AND VITAMINS

These bottles originally designed by Richter, were graduated cylinders of uniform length but of different diameters. We have used in these

experiments bottles having the following capacities: 3 cc., 5 cc., 10 cc., 15 cc., 80 cc., and 120 cc. The mouths of these bottles were uniform in size and appearance for each capacity bottle.

THE SOLID DIET—PROTEIN, CARBOHYDRATE, AND FAT

A specially designed rack was made of wood in which four holes had been drilled to hold two-ounce agate or glass ointment jars. The screw top of an ointment jar was soldered at approximately a 20° angle to a metal cone. The rat got at the food in the jar by crawling into the cone and then removing the food from the jar proper through the hole in the jar cover.

THE SALT AND VITAMIN SOLUTIONS OFFERED TO THE RATS IN THE SELF-SELECTION EXPERIMENTS

Bottle Number	Solution	Concentration (%)
1 and 2	Water	Distilled
3	NaCl	3
4	KCl	3
5	NaH ₂ PO ₄	3
6	KH ₂ PO ₄	3
7	CaLactate	3
8	FeCitrate	3
9	CuSO ₄	1
10	MnSO ₄	3
11	MgSO ₄	3
12	Al ₂ (SO ₄) ₃	1
13	CoCl ₂	1
14	ZnCl ₂	1
15	Iodine	0.54
19	Thiamine	0.5
20	Riboflavin	0.02
21	Pyridoxine	0.5
22	Nicotinamide	0.5
23	CaPantothenate	0.5
24	Para-amino-benzoic acid	0.5
25	Choline Cl	0.5
26	Inositol	0.5
27	Ascorbic acid	0.5
28	Vitamin A	0.5
29	Oil Control (ethyl laurate)	0.01
30	Calciferol	0.5
31	a-Tocopherol	0.5
32	Vitamin K	0.5
33	Vitamin P (methyl chalcone of hesperidin)	0.5
34	Biotin	0.002

The three foodstuffs used in these experiments were as follows:

Protein—Casein (vitamin-free) Labco Brand, Borden Co.

Carbohydrate—Corn Starch, Baker's Pride Brand.

Fat—Armour's Simon Pure Leaf Lard.

The solid foodstuff mixture which was used in the experiments had the following composition:

Foodstuff	"Normal Diet" *	"High-Fat Diet" *
Protein (gm)	20	20
Carbohydrate (gm)	55	30
Fat (gm)	25	50
Total (gm)	100	100
Calories in 100 gm. of solid diet	540	670

A uniform mixture of the foodstuffs was attained by thoroughly mixing them with a specially devised metal stirrer attached to an electric drill press.

THE ANIMALS

All the animals used in the experiments reported in this dissertation were female rats of the Wistar strain obtained at approximately 35 days of age from a large stock colony. These rats were then kept in our laboratory for one week or more before being placed under the conditions of the self-selection tests.

The number of rats in a cage for this type of experiment poses an interesting question in technique. With one rat in a cage, the given selection of items by that rat can be directly observed. However, the variability of daily consumption has been shown to be a serious problem even with eight rats in a cage. This means that a large number of single rat cages would have to be used to lower the daily variation in consumption. When large numbers of items are on the cage for self-selection, as in our experiments, this would present a serious technical problem. Therefore, it was decided to place twenty or more rats in a cage in order to attain the same theoretical advantages which a large number of single rat cages would give when a mean or other "result-statistic" would be used in the analysis of data secured in these self-selection experiments.

ADAPTATION OF RATS TO SELF-SELECTION OF DIET

Rats were placed on the self-selection of diet after a two-week adaptation to this new regime. The cages were complete with all the drinking bottles, and the food cups contained the "normal diet" mixture of protein, fat, and carbohydrate (salt- and vitamin-free). Rat chow biscuits were also given freely in this period. No records were kept of food consumption during this adaptation period. This phase of the adaptation period lasted seven days.

The procedure during the second week of the adaptation period was

* Salt-free and vitamin-free

the same as that of the first week except that the rat chow was gradually discontinued. During this week, also, the "high-fat" foodstuffs mixture was gradually substituted for the "normal" foodstuffs mixture in the experiments where salt and vitamin selection by rats on "normal" versus "high-fat" diets were compared. Thus, at the beginning of the third week the synthetic diet was the only source of foodstuffs (salt- and vitamin-free).

DETERMINATION OF THE SALT AND VITAMIN CONSUMPTION

Following the two-week period of adaptation, the experimental phase was considered to be in progress. A reading of the volume of solution present in each bottle was made every other day (with checks on the bottles on between days). The volume of a solution consumed in a two-day period was calculated to give the value of mgm. of salt or vitamin consumption per 100 gm. of body weight of rat in a cage.

EXPERIMENTAL EVIDENCE

The data in this study have been divided into three parts for analysis and evaluation. *Part I* is concerned with the growth (weight-increment) and survival of rats on self-selection diet and other evidence from the experiments which permitted an evaluation of the adaptation of the rats to the self-selection regime. *Part II* is concerned with the level of consumption of each of the dietary substances offered for "free-choice", and the variability of consumption of each of these substances. In *Part III*, the data were analyzed for evidence of the effect, if any, on the levels of intake of the salt or vitamin solutions when a difference in conditions was imposed, as between any two groups of rats in a "free-choice" environment.

PART I: THE GROWTH AND SURVIVAL OF RATS ON THE SELF-SELECTION DIET

A. GROWTH AND SURVIVAL OF YOUNG RATS ON THE "FULLY-DISPersed" SELF-SELECTION DIET

A group of female rats, age 51 days, was divided between two cages as follows: 48 rats destined for self-selection of salts, vitamins, and the three foodstuffs were placed in a self-selection cage; and 45 rats to be placed on a composite solid synthetic diet were put into another cage. At the age of 69 days the first group of rats was placed on self-selection of the dietary constituents; the second, or control group, were given a composite diet (prepared in this laboratory) of the three foodstuffs and all the salts and vitamins which were available on the cage to the group on self-selection.

The solid composite diet of the control group was prepared as follows:

			Modified Salt Mixture % of Total Salt Mixture
Casein (vitamin-free)	18%	NaCl	6.9
		KCl	11.2
		NaH ₂ PO ₄	2.4
		KH ₂ PO ₄	21.0
Crisco	8%	Ca Lactate	54.3
		Fe Citrate	1.0
		CuSO ₄	0.09
		MnSO ₄	0.035
Salt Mixture	4%	MgSO ₄	4.1
		Al ₂ (SO ₄) ₃	0.017
		CoCl ₂	0.02
		ZnSO ₄	0.02
Starch	70%	Iodine	0.008

Into each 100 gm. of above, added:

1.0 mgm	Thiamine Cl
2.0 mgm	Riboflavin
1.0 mgm	Pyridoxin
2.0 mgm	Ca Pantothenate
200.0 mgm	Choline Cl
0.3 mgm	α -Tocopherol
400.0 micrograms	Vitamin K
1.0 micrograms	Biotin
2.0 micrograms	Nicotinamide
8000 units	Vitamin A
800 units	Vitamin D ₃

The composite synthetic mixture was stirred into uniformity with an electric-drill mixer.

A comparison of the weight-increments of the two groups of rats during one month of the experiment showed that the experimental group of rats stopped gaining weight immediately after being placed on this regime. However, the control group of rats given the composite synthetic diet continued to gain weight. In fact, the weight-increment of this control group compares very favorably with the pattern of weight-increment of Wistar female rats as given by Donaldson.

The reason for this marked difference in growth between the two groups is not clear. However, it is clear that the items on the self-selection cage are not, *per se*, deleterious to growth since the rats consuming the composite diet fared very favorably.

This controlled study of the weight gain of rats on the expanded self-selection regime seemed to indicate clearly that young rats do not do well under these conditions. This raised the question of whether rats would grow better when the "free-choice" environment would consist of

* Based on the salt mixtures recommended by Hubbell, R. B. et al. J. Nutri. 14: 251, 1937. Hawk, P. B. and Oser, B. L. Science 74: 360, 1951.

the three foodstuffs combined into a single mixture (salt- and vitamin-free) with only salt and vitamin solutions offered to the rats for selection.

B. THE GROWTH AND SURVIVAL OF YOUNG RATS ON SELF-SELECTION OF SALTS AND VITAMINS WHEN GIVEN A "NORMAL-PROPORTIONED" FOODSTUFFS DIET OR A "HIGH-FAT PROPORTIONED" FOODSTUFFS DIET (SALT- AND VITAMIN-FREE)

A group of 99 female rats of age 47 days were placed on self-selection after a two-week adaptation period as follows: 50 rats were equally distributed between cages C and D and given a "normal-proportioned" mixture of protein, fat, and carbohydrate; 49 rats were distributed between cages E and F (25 rats in one cage, and 24 rats in the other) and given a "high-fat proportioned" foodstuffs diet. Cages E and F were observed concurrently with cages C and D for growth, survival, and the intake of mineral and vitamin solutions by self-selection. The rats in the four cages were kept on an equicaloric foodstuffs diet.

After the tenth weighing (approximately four weeks), it was decided to remove all the "weight-loser" rats from the original two groups of rats, on the different foodstuffs diet. The average weight of the remaining rats, from now on referred to as the "gainers", in the two groups was at a new high point as a result of removing the "weight-lossers" by this selective action. It is noteworthy that from this point the growth curve of both groups of rats (the "weight-gainers") on self-selection of dietary constituents paralleled the growth curve of Wistar female rats as given by Donaldson. However, the mortality continued. It is therefore evident that poor growth and mortality are not dependent factors in self-selection experiments. Apparently mortality can occur under this regime even though growth appears to follow the normal growth curve of this strain of rats.

C. THE GROWTH AND SURVIVAL OF ADULT (MORE THAN 100 DAYS OLD) RATS ON SELF-SELECTION OF SALTS AND VITAMINS WHEN GIVEN A "NORMAL-PROPORTIONED" FOODSTUFFS DIET (SALT- AND VITAMIN-FREE)

In view of the rather severe effects of this technique on the growth (gain of weight) and survival of young rats, it was of interest to study the growth and survival of the adult rat under the self-selection regime. Two cages were set up with Wistar female adult rats as follows:

Cage G—45 adult female rats, 100 days old, average weight 148 gm.

Cage H—22 adult female rats, 153 days old, average weight 185 gm.

The data from this experiment may be summarized as follows: The average weight of the large group (45 rats in one cage) was 164 gm. at the end of the adaptation period. Donaldson gives the average weight of Wistar female rats at this age (114 days) as 165 gm. At the

end of four weeks of self-selection, these rats weighed 178 gm. Donaldson gives the average weight for this age as 180 gm. There had been no deaths during the four weeks on self-selection.

A similar pattern of adaptation appeared in the group which had started with 22 rats. The average weight at the time they were put on self-selection was 201 gm. This compares with Donaldson's average weight of 195 gm. for this age rat. At the end of four weeks on self-selection, these experimental rats weighed 216 gm. as compared with Donaldson's average of 205 gm. at this age. There were no deaths in this group of adult rats on self-selection for four weeks.

The general conclusion which may be drawn from these experiments of the growth and survival of young and adult rats on self-selection is that by the standards of weight-increment and survival the adult rat can adapt to this regime whereas the young rat, in the main, is unable to adapt to self-selection.

PART II: THE CONSUMPTION OF SALT AND VITAMIN SOLUTIONS AND THE VARIABILITY OF THE LEVEL OF CONSUMPTION

Data on the intake of the different minerals and vitamins by self-selection were obtained from the group of young rats; from the "gainers" of this group; and from the adult rats. The total consumption of an item recorded from day to day includes not only the direct intake by the rats of that item but also the small amount of evaporation which cannot be avoided. The extent of evaporation of the water solutions will be a greater factor in a given reading than those items in solution in ethyl laurate (the fat-soluble vitamins). There are in an experiment of this kind other factors which possibly influence a given "total consumption" reading, as: competition for an item between two or more rats in the experiment; also, probably a number of other "psychological" rat factors which operate in a self-selection cage of rats. It is believed that these influences on the day to day consumption were "smoothed out" by using a large number of rats in each cage, by the length of our periods of observation (approximately one month), and the use of the statistic "Mean Level of Consumption (mgm/100gm of rat)".

The following minerals, in the order given, were consumed at higher mean levels per 48-hour period than any other item on the cage: CaLactate, NaCl, NaH_2PO_4 , KH_2PO_4 , and KCl. This pattern appeared in the three experimental groups of rats regardless of the proportions of the two foodstuffs diets that were given. The remaining salts offered for "free-choice" in these experiments were consumed at generally low levels of mean consumption (mgm/100gm of rat) per 48-hour period. A noteworthy feature of these data is that the vitamins and the minor salts were generally consumed at approximately the same mean levels per 48-hour period. The significance of this pattern of

intake of available salts and vitamins is not known. However, it is believed that these data offer some evidence that rats can distinguish between some of the different solutions. This does not imply however, that they do so on the basis of satisfying a physiological need.

An aspect of this technique which is of importance in the consideration of this method of self-selection as an instrument was the high daily variability of consumption of each of the different items. It has been the belief in this laboratory that the high degree of variability observed in daily consumption of any given item could be reduced by using a larger number of rats per cage. Accordingly, 45 adult rats were placed in one cage, and 22 adult rats in another cage. The laboratory conditions were identical, as well as the items on the cages and the foodstuffs mixture. Comparison of the standard deviation values for the several items for self-selection given these two groups of rats shows that of the 27 standard deviations, the cage with 45 rats had 17 smaller and 10 larger values than the standard deviation values for the cage of 22 rats. Such a distribution of these values may have been due to chance alone. This variability may be integrated in the self-selection method, *per se*.

PART III: THE EFFECT OF A DIFFERENCE IN CONDITIONS AS BETWEEN ANY TWO GROUPS OF RATS ON THE SELF-SELECTION OF SALTS AND VITAMINS

It was of considerable interest to determine whether our expanded self-selection method could be used to indicate a difference in intake of salts and vitamins as between any two groups of rats.

A. THE EFFECT OF A "NORMAL-PROPORTIONED" VERSUS A "HIGH-FAT PROPORTIONED" FOODSTUFFS DIET ON THE SELF-SELECTION OF SALTS AND VITAMINS

The rats given the "normal-proportioned" foodstuffs diet were considered the controls versus the rats given the "high-fat proportioned" foodstuffs diet. The mean consumption (mgm/100gm of rat) per 48-hour period and the standard deviation were calculated from the records of consumption during 28 days of observation. The difference between each pair of means was calculated together with the probability that chance alone could equal or exceed such a difference between means.

The 48-hour mean level of consumption per 100 gm. of rat for NaCl, CaLactate, $Al_2(SO_4)_3$, $CoCl_2$, and iodine in the two cages were significantly different. Also, the following vitamins were consumed at statistically significant different mean levels: thiamine, riboflavin, CaPantothenate, para-amino-benzoic acid, choline, inositol, and vitamin D₂. Of these items, all but $Al_2(SO_4)_3$ and $CoCl_2$, were consumed at lower mean levels by the group of rats on the "high-fat" foodstuffs diet.

A second analysis of this type was made of the data secured from the consumption of salts and vitamins by the two groups of "weight-gainers" which had apparently "adapted" to some extent to self-selection of dietary constituents. As in the above analysis, the "gainer" rats given a "normal-proportioned" foodstuffs diet were considered to be the controls versus the "gainer" rats given a "high-fat proportioned" foodstuffs diet as the experimentals. For each of the items offered, the mean consumption (mgm/100gm of rat) per 48-hour period and the standard deviation were calculated from the records of consumption during 30 days of observation.

The forty-eight hour mean level of consumption per 100 gm. of rat for NaCl, KCl, CaLactate, FeCitrate, and MnSO₄ in the two cages were significantly different. Also, the following vitamins were consumed at statistically significant different mean levels: riboflavin, ascorbic acid, vitamin D₂, and a-Tocopherol. All of these items, except a-Tocopherol, were consumed at higher mean levels by the group of rats given the "high-fat proportioned" foodstuffs diet. It appears, therefore, that under the conditions of the experiments, in spite of the generally high degree of day to day variation in consumption of each item, statistically significant differences in mean levels of consumption for some items can be shown as between two groups of rats.

It is shown in B of Part III that the difference of those items in which the actual value "Difference between the Means" is less than one mgm. per 100 gm. of rat and yet are statistically significantly different may well be the result of such factors used in the derivation of the result statistic "P" as: Difference of the size of the two groups, and the "evaporation factor". Therefore, only a few of the items were actually consumed at statistically significant different mean levels.

B. THE EFFECT OF A DIFFERENCE IN NUMBER OF RATS PER CAGE ON THE SELF-SELECTION OF SALTS AND VITAMINS

The data from the two groups of adult rats (groups G and H) of self-selection of diet were also suitable for an analysis of the effect of difference in conditions, as between two cages, on the mean consumption of salts and vitamins. Both groups were observed concurrently under the same laboratory conditions. The two groups were given a "normal" foodstuffs diet *ad lib.* Eighteen items were consumed at significantly different mean levels. The smaller group consumed significantly more (per 100 gm. of body weight) of: FeCitrate, MnSO₄, CoCl₂, ZnCl₂, iodine, thiamine, riboflavin, pyridoxin, nicotinamide, Pantothenate, choline chloride, inositol, vitamin A, and vitamin P. The NaH₂PO₄, KH₂PO₄, vitamin D₂, and vitamin K were consumed at significantly higher mean daily levels by the larger group of rats.

The specific factors which were responsible for the significant differences

ence in consumption of the eighteen items between the two groups are not known. However, they are apparently related to the difference in the size, and possibly to the fifty-three day difference in age of the two groups. The difference in the size of the two groups could possibly be related to such differences as: activity, "group temperature", and competition at the drinking bottles among other factors which might conceivably influence the mean daily levels of consumption.

The results of the data indicate that particular attention must be given to at least these factors in setting up of self-selection experiment of several cages: (a) The number of rats in all cages must be the same. (b) The total weight of the rats in all cages must closely approximate each other. (c) The mouths of all drinking bottles should be of uniform dimensions.

SUMMARY AND CONCLUSIONS

1. The general scope and limitations of a method of self-selection of salts and vitamins as an instrument of research were investigated.
2. It was found that groups of forty to fifty young, immature, female rats (approximately fifty days old) had a 65 to 70 per cent mortality in the course of ten weeks when exposed to this self-selection method of dietary constituents.
3. Groups of immature rats appeared unable to gain weight under the imposed regime, whereas control rats given a synthetic composite diet of all the substances offered for self-selection gained weight comparable to the normal weight curve of this strain of rat.
4. Two groups of adult rats (more than one hundred days old at the start of the experiment) gained weight and survived on self-selection of salts and vitamins for thirty days.
5. The data therefore indicated that adult rats apparently can adapt to this method of self-selection of salts and vitamins to a sufficient extent to enable their use in investigations employing this method as an experimental instrument. Young immature rats are a greater risk on this method than is usually accepted in the design of an experiment.
6. Mean levels of consumption \pm Standard Deviation of salts and vitamins were determined for several different groups of rats—adult rats, young "adapted" rats, and young rats which apparently were "unadapted" to self-selection.
7. The daily consumption of salts and vitamins by the self-selection method was shown to be highly variable in all groups of rats tested. Because of this variability, analysis of the data must be made statistically; particularly if the effect of an imposed condition is to be analyzed. The data can be expressed by a value, as, "Mean Daily Level of Consumption (mgm/100gm of rat) \pm Standard Deviation".
8. By statistical treatment of the data, it has been shown that per

100 gm. of rat there is a statistically significant difference in the mean level of consumption of a few salts and vitamins by rats consuming a "high-fat" foodstuffs diet as compared with an identical group of rats consuming a "normal-proportioned" foodstuffs diet (salt- and vitamin-free) in concurrent experiments.

9. Evidence has been presented that apparent statistically significant differences in the mean consumption of an item as between two groups of rats may be the resultant of the following factors, particularly when the actual value of the difference between the means was small: A difference in size of the groups, a difference in total weight of the groups, and the influence of the "evaporation factor".

10. Evidence has been presented that "weight-loser" rats present in a group probably raise the variability of the mean salt and vitamin intake of the whole group.

11. Methods and procedures of observing groups of rats on an "extensive" self-selection of salts and vitamins have been presented and discussed.

RELATIONSHIPS OF BACTERIA AND AMOEBAE IN CULTURES OF *ENDAMOEBA HISTOLYTICA*

by LEON JACOBS*

The work described in this thesis is an outgrowth of studies which have been carried on at the Zoology Laboratory of the National Institute of Health during the past several years on the cultivation of *Endamoeba histolytica* with single species of bacteria. The object has been the attainment of knowledge of the relationships of bacteria and amoebae *in vitro* to be applied to the establishment of cultures of the protozoan without bacteria. All the studies were carried out on cultures of amoebae in Locke's-egg medium, usually enriched with powdered rice starch (L.E.R. medium). It was considered that correlations between the oxidation-reduction potentials produced by various bacteria, and the growth of amoebae with these bacterial species might furnish a clue to the respiratory needs of *E. histolytica*. Studies were conducted on the early stages of newly transplanted cultures to find out if freshly started cultures could furnish an opportunity for the testing of growth requirements of the amoeba in the absence of bacteria-produced effects. As an outgrowth of these experiments, an investigation was made of the effect of penicillin on cultures of *Endamoeba histolytica* growing in the presence of penicillin-sensitive species of bacteria. Penicillin was also used in substitution experiments, in which it was attempted to eliminate a penicillin-sensitive organism growing with the amoeba and to replace it with a penicillin-resistant species.

The development of the theory of oxidation-reduction potentials is presented briefly, and a review is given of the literature on this subject in the field of protozoology. The reasons for studying the oxidation-reduction potentials of amoeba cultures are presented: sterile filtrates of bacterial cultures failed to produce growth of amoebae from micro-isolated cysts although the live bacteria supported such growth. Cultures of amoebae with bacteria developed from micro-isolated cysts in a shorter time when kept in an atmosphere of 15 per cent carbon dioxide than when incubated aerobically. The excystation of sterile cysts had been accomplished in the presence of a reducing agent, cysteine hydrochloride, by Snyder and Meleney in 1941.

Potentiometric measurements of cultures of five species of bacteria growing in the Locke's-egg-rice medium were made. The bacteria studied were *Bacterium coronafaciens*, *Bacillus subtilis*, *Streptococcus hemolyticus* strain number 563, organism "t", and *Clostridium perfringens*. Determinations of hydrogen-ion concentration were made on cultures of all species except *Bacterium coronafaciens*. The pH readings

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were supplemented by others made on parallel cultures inoculated at the same time in the same manner.

Many experiments were performed, except in the case of *B. coronafaciens*, because considerable variation in potential was found even in parallel tubes of the same experiment. The potential variations encountered are discussed as possibly attributable to differences in the quantities of reducing substances in the medium and corollary differences in bacterial growth, and to variations in electrode surfaces. Because of the heterogeneous systems being measured, it is pointed out that the potential readings do not have the definite interpretation possible in a known solution of a single oxidation-reduction system. The pH readings did not exhibit much variation.

Bacterium coronafaciens has very little reducing tendency. A low potential was reached only after 60 hours' growth, and then attained only -114 millivolts. *Bacillus subtilis* has a somewhat greater reducing activity, reaching a potential of -110 millivolts in 20 hours and eventually going as low as -150 millivolts. The pH of the cultures with this bacterium changes from 7.4 to about 6.75 during the first 24 hours, and then gradually rises again to levels of about pH 7.3. *Streptococcus hemolyticus* is even more reducing, reaching a level of about -250 millivolts at pH 6.0 to 6.3. The potentials in cultures of these three organisms are maintained for up to three weeks.

Within the first few hours of incubation, organism "c" rapidly lowers the oxidation-reduction potential of the medium to about -360 millivolts at a pH of 6.3 to 6.5. Thereafter the cultures exhibit a return to higher potential levels and may have an Eh as high as -40 millivolts at 24 hours, after which they may gradually go even higher, to low positive levels. The pH of these cultures remains fairly constant. *Clostridium perfringens* also lowers the potential of the medium to -300 millivolts or below, but low potentials persist with only a relatively slight rise for up to 50 hours and even beyond. The pH of cultures of this anaerobe reaches 6.2 at about 6 hours, after which it gradually decreases to 5.8 to 6.0 at 50 hours.

Cultures of amoebae growing with the different species of bacteria showed parallel potential-time curves with no differences more significant than the variations usually encountered. Apparently the oxidation-reduction potential of the medium is not affected by the amoebae, or is so slightly affected that the effect is not detectable in the presence of the bacteria.

Data are also presented on the numbers of bacteria in cultures of *Endamoeba histolytica*. These counts indicate that a drop in numbers of bacteria does not always occur after the initiation of growth of amoebae, as has been reported by others. A sharp rise in oxidation-reduction potential of amoeba cultures attributed by Chang to a decrease in the

bacterial population may be explained by some other phenomena, such as fluctuations in relative numbers of the different species of bacteria in mixed cultures.

Although growth of *Endamoeba histolytica* is most abundant with the two species of bacteria, organism "t" and *Clostridium perfringens*, which produce low potentials in the L.E.R. medium, the growth of the amoeba cannot be correlated with the maintenance of very reducing conditions. Counts of the amoebae in culture with organism "t" indicate that growth of the amoebae is most rapid after the Eh has risen to only slightly negative or to low positive potentials. With *Clostridium perfringens*, the growth of the amoeba is most rapid during the same interval, between 24 and 48 hours, but in this case the potential remains low. Consequently all that can be said is that the amoeba is capable of multiplication within a wide range of oxidation-reduction potentials. The Eh of uninoculated L.E.R. medium is about 250 millivolts, and that of deoxygenated medium is about -50 millivolts. Therefore, while it appears that some reduction of the medium is required for the growth of *Endamoeba histolytica*, it may be that this reduction is accomplished by the bacteria merely by the depletion of oxygen in the medium. The fact that multiplication of *E. histolytica* in culture with organism "t" continues at low positive potentials (below 50 millivolts) indicates that the amoeba may be capable of growth in environments containing small amounts of oxygen as well as under strictly anaerobic conditions. It is also possible that carbon dioxide tension may be important.

While no studies were made of oxidation-reduction potentials in relation to excystation, correlations between the ease of establishment of amoeba cultures from micro-isolated cysts with particular species of bacteria, and the potentials produced by these bacteria are made. These arguments are coupled with the observations of other workers and with the sites inhabited by amoeba cysts and trophozoites in the host to support the idea that a lower potential may be required for the induction of excystation of amoeba cysts than for the subsequent growth of the trophozoites.

Studies were made of changes in amoeba population during the first 24 hours in newly transplanted cultures of *Endamoeba histolytica* growing with organism "t". The methods consisted of modifying the length of the lag phase of the bacteria by varying the size of the bacterial inoculum, or of allowing bacterial growth to proceed for different lengths of time before inoculation of the cultures with amoebae. Counts of amoebae at the time of inoculation and after 24 and 48 hours were made to determine the effects of these modifications.

It was shown that the length of time necessary for the production of reducing conditions in the L.E.R. medium by organism "t" is a function of the size of the bacterial inoculum. Since the establishment of reduc-

ing conditions is related to the onset of the logarithmic growth phase of the bacteria, this is a demonstration of how the size of the bacterial inoculum influences the lag phase. It was found that on transplantation into fresh medium a decrease in numbers of amoebae occurs. The length of this period of decline of amoebae appears to be dependent on the length of the lag phase of the bacteria, since a sufficient increase in numbers of bacteria in the inoculum lessened the decrease in numbers of amoebae. Conditioning of the medium by the growth of bacteria prior to inoculation with amoebae was found to shorten or eliminate the period of amoeba decline. Also, the heat treatment of medium conditioned by the growth of bacteria does not destroy its beneficial effect for the amoebae entirely.

It was therefore considered that the period of amoeba decline in fresh medium would allow opportunity for testing of growth requirements of *Endamoeba histolytica*, before the bacteria began to exert their effect. If any added ingredients or modified conditions were capable of lessening the decrease in numbers of amoebae during the first 24 hours, they could be considered important for the cultivation of the protozoan without bacteria. When penicillin became available, it was used for producing bacteriostasis in young cultures, thereby further lessening the effect of bacteria on the experimental results and allowing an increase in the time of experiments.

Medium conditioned by a 24-hour growth of *Escherichia coli* or of *Staphylococcus aureus* and then heat-treated at 65 degrees C. for two hours to kill the bacteria was compared with fresh L.E.R. medium for ability to support *Endamoeba histolytica* in the presence of penicillin used to inhibit bacterial growth. The amoeba inoculum in these tests was derived from cultures growing with *Streptococcus hemolyticus* or, more frequently, with *Clostridium perfringens*. No cultures of amoebae developed in fresh medium in these tests, while the protozoan survived and multiplied in the tubes of conditioned medium for at least 48 hours. Dilution plate counts showed a very considerable reduction in numbers of bacteria, from over 3 million per cc. at the start of the experiment to about 1,000 per cc. after 24 hours, but complete elimination of the bacteria was not obtained.

Attempts were made to eliminate the viable bacteria entirely by successive transplants of cultures through tubes of penicillin-containing conditioned medium. In the first trial, of three cultures started, two survived through four transplants in conditioned medium containing added dead bacteria. After the fourth transplant, these cultures were maintained through 26 more transplants, over a period of more than three months, in conditioned medium containing added dead bacteria, defibrinated rabbit blood, and a mixture of nine water-soluble vitamins. During this time, by the process of inoculating two new tubes from one

old culture, seventy cultures were derived from the original two. Therefore, although growth was always meager, with usually only one amoeba seen per low power field of the microscope in the examination of sediment from the tubes, there is no doubt that multiplication of amoebae took place. The time between transplants was extended to every six to eight days.

From ten to fourteen transplants were made without the use of penicillin. In no case did *Clostridium perfringens*, the bacterium originally introduced with the amoebae, grow out, nor was it possible to demonstrate the presence of any bacterial contaminants by the use of thioglycollate medium, aerobic and anaerobic blood agar slants, or Sabouraud's agar. Numerous sterility tests with these media failed to show the presence of any viable bacteria.

After the thirtieth transplant, a sudden cessation of growth of the amoebae in these cultures was observed, and all the cultures were lost soon thereafter. The reason for this occurrence cannot be explained.

During the course of this experiment, a number of attempts were made to duplicate the results with other series of cultures. In three cases the amoebae survived for only one or two transplants in conditioned medium containing penicillin. In a fourth attempt, of three cultures started, two cultures survived through seven transplants. In the fifth attempt, of six cultures started in conditioned medium containing blood, dead bacteria, and vitamins, two survived through the thirteenth, and one through the fifteenth transplant. Two transplants from this latter culture still show growth of amoebae, and no bacterial growth has occurred in sterility tests made in thioglycollate broth containing a penicillin inactivator, clarase, nor in blood agar slants. It can therefore be concluded that the *Clostridium perfringens*, which was present at the start, was eliminated. Further tests are necessary to rule out the presence of bacterial contaminants.

During the course of these experiments, some observations were made on the effect of various ingredients of the conditioned medium on the growth of the amoebae. It was observed that a slight stimulatory effect was produced by the addition of water-soluble vitamins. In the first series of cultures without viable bacteria, cessation of growth occurred more frequently in tubes without added vitamins than in tubes containing these substances. In other experiments, growth of amoebae perum plus vitamins than in the same medium without the added ingredients. Phagocytosis of red blood cells by the amoebae was observed more frequently in tubes without added vitamins. It was also possible to substitute glucose for powdered rice starch in the first series through as many as nine transplants, without any deleterious effect on the amoe-

bae. In the second series in which amoebae persisted after the elimination of viable bacteria, glucose was used from the start.

Filtrates of conditioned L.E.R. medium with and without added suspensions of dead bacteria were compared. It was found that in no case were cultures of amoebae obtained in penicillin-containing filtrates of conditioned medium, while growth of amoebae did occur in the same filtrates plus dead bacteria. In one case, multiplication of amoebae was obtained in unconditioned medium containing a suspension of dead bacteria and penicillin.

The continued growth of amoebae without viable bacteria may be due to an adaptation of the protozoan to a new environment, such as has been observed in the case of free-living holozoic ciliates in the establishment of cultures without bacteria. Dead bacteria apparently add a factor to the medium without which the amoebae do not survive. However, the meager growth of amoebae in conditioned medium plus the added ingredients, and the mortality of cultures during the process of elimination of viable bacteria, indicate the need for some heat-labile, non-filterable substance present in live bacteria. The penicillin technique is offered as a practicable method of investigating the growth requirements of *Endamoeba histolytica* without concern for the role of the bacteria, and the most fruitful direction for such studies is thought to lie toward the preparation and testing of bacterial extracts uninjured by heat.

A summary is given of the various species of bacteria which, singly, have supported growth of *Endamoeba histolytica* in the L.E.R. medium and in liver infusion agar medium. Discrepancies observed in the ability of bacteria to support growth of amoebae in cultures established from trophozoites but not from cysts are discussed. By the use of penicillin in successive transplants, it was attempted to perform substitution experiments, eliminating penicillin-sensitive bacteria and replacing them with penicillin-resistant species, in cultures of amoebae. Thus the ability of various bacteria to support growth of amoeba trophozoites in the L.E.R. medium could be determined. Attempts to substitute *Shigella dysenteriae*, *Salmonella enteritidis*, or *Proteus vulgaris* OX 19 for *Streptococcus hemolyticus* or for *Clostridium perfringens* in amoeba cultures failed even with the use of concentrations of penicillin as high as 200 units per cc. of overlay. When *Pseudomonas aeruginosa* was added to amoeba-streptococcus cultures, the amoebae died. In cultures containing *Salmonella enteritidis* in addition to the streptococcus or the clostridium, the amoebae survived through only a few transplants. Similarly, the addition of *Shigella dysenteriae* to cultures of amoebae with *Cl. perfringens* resulted in the disappearance of the amoebae.

It was possible to substitute *Klebsiella pneumoniae*, *Eberthella typhosa*, and *Salmonella paratyphi* A and B for *Streptococcus hemolyticus*

in similar experiments. This is of interest, since in studies on the establishment of cultures of *E. histolytica* from micro-isolated cysts with various species of bacteria, no cultures had ever been produced with *Salmonella paratyphi*. Consequently it is apparent that while a bacterial species may not be capable of initiating cultures of amoebae from small numbers of cysts, it may be capable of maintaining amoeba trophozoites *in vitro*. This may be due to the failure to obtain a proper balance between the bacteria and the few amoeba trophozoites emerging from the cysts. It is also possible that the paratyphoid bacilli were not capable of producing sufficiently reducing conditions in the L.E.R. medium to induce excystation of cysts.

A SEROLOGICAL STUDY OF A STRAIN OF *S. MELEAGRIDIS* AND OF THE BACTERIOPHAGE RESISTANT STRAINS DERIVED FROM IT

by EDITH MYNETTE RICH*

The purpose of this study was to determine the antigenic structure of organisms from the secondary growth of a culture submitted to the action of a specific bacteriophage. Most of the earlier work reported in the literature showed that the resistant strains were "rough" where the susceptible strains were "smooth," or vice-versa; or that there was no antigenic difference between them. Some of the more recent findings, however, associate bacteriophage sensitivity with the possession of a particular somatic antigen.

The *Salmonella* group was chosen for this work because its major antigens are well known and because the general methods for *Salmonella* typing could be followed with but slight modification. Members of Groups B and D were first chosen and used in the early tests for determining optimal conditions for detecting antibody and antigen in macroscopic agglutination tests, but discussion of the problem with Dr. P. R. Edwards resulted in the adoption of Group E species for use in the body of the work. The bacterial cultures were obtained from Dr. P. R. Edwards of the Agricultural Experiment Station of the University of Kentucky, and from Major G. F. Luippold and Miss Margaret Coates of the Army Medical School.

Cultures were transplanted bimonthly to Bacto Stock Culture Agar and stored at room temperature. At intervals the following procedures were carried out: Pampana's trypanflavine test for "roughness"; observations under a dissecting microscope of colony form on veal infusion agar; microscopic examination; autoagglutinability in various NaCl concentrations; determination of action on dextrose, maltose, mannite, tryptophane, nitrates, and litmus milk. Unless otherwise stated a tryptose phosphate broth or agar of pH 7.4-7.6 was used throughout the investigation.

The organisms chosen for the preparation of single factor testing fluids were those suggested in Station Circular 54 of the University of Kentucky Agricultural Experiment Station. Rabbits were immunized in duplicate with 24-hour broth cultures heat treated by keeping for 2 hours in a boiling water bath, and preserved by the addition of 0.3 per cent formalin. A course of injections was given, one on each of 4 successive days, and 5 days after the last injection trial bleedings were made. If the titers were insufficient additional injections were given:

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otherwise, the rabbits were bled and the serums were preserved with 1-10,000 merthiolate and stored at 4°C.

In the agglutination tests, two-fold dilutions of serum were made in 0.3 per cent formalized physiological salt solution; the antigens were prepared as for the injections and diluted to uniform turbidity. Tests were incubated at 50°C. for 2 hours, and were read with the unaided eye after a further period at room temperature. In the adsorption tests, the methods outlined in Station Circular 54 were adhered to except that the adsorbing suspensions were standardized.

The source of the bacteriophage was a raw sewage sample from the Sewage Pumping Station in Washington, D. C. It was filtered through cotton and then through #01 and 03 Selas' bacteriological filters. Bacteriophage titrations were made according to the method of Levine and Frisch. Titrations were read at intervals during the first 5 hours of incubation at 37°C., then once again after overnight incubation at room temperature.

Alcoholized antigens prepared according to the method of White were at first used in conjunction with the heat-treated ones, but their use failed to give consistent information about the organisms or the serums.

Single factor testing fluids were prepared for all antigens of diagnostic importance which occur in Group E. During this process it was found that one Group E strain, *S. meleagridis* 156, behaved in an anomalous fashion. When tested in some whole serums against *S. anatum* and *S. newington*, the two type strains of the group as far as the somatic antigens are concerned, *S. meleagridis* was agglutinated to very low titer, whereas all other cultures were agglutinated in relatively high titer. (*S. illinois* was agglutinated poorly also, but this is explainable by the fact that this species may sometimes lack major factors.)

Because of this interesting and unexplained behavior of *S. meleagridis*, the strain was used to immunize rabbits. Both animals responded promptly with the production of high titered antisera. Titers for heterologous strains were low.

Though sewage filtrates in 10^{-1} dilution showed slight activity against a number of *Salmonella* strains, lysis appeared to be transmissible on second passage for *S. newington* only. The titer for this strain was stabilized at 10^{-4} after 2 additional passages. At this point the activity of the lytic principle was determined for other strains of the *S. newington* group and for *S. meleagridis*. *S. cambridge* and *S. illinois* were not affected; all other strains tested showed varying degrees of susceptibility. Because of the peculiar nature of *S. meleagridis*, the filtrate was now passed 3 times at the expense of *S. meleagridis*, which procedure raised the titer of the lytic filtrate for the strain from 10^{-2} to 10^{-10} . The titer for *S. newington* remained 10^{-4} and titers for other organisms of both groups ranged from 10^{-2} to 10^{-4} . *S. cambridge* alone remained completely

resistant. *S. cambridge* had previously been shown to have some of the characteristics associated with "roughness".

Resistant strains of *S. meleagridis* were obtained by cultivating the secondary growth from tubes representing 10^{-1} to 10^{-4} dilutions of active principle. The colonies so obtained fell into two groups, corresponding to the two groups noted by Brontzenbrenner and Korb for *S. typhi-murium*. One group was characterized by relatively large colonies, uniform cellular morphology, motility, complete resistance to the bacteriophage, low titers with *S. meleagridis* antiserum, and a negative trypanflavine test for "roughness". The second group on the other hand, was characterized by small colonies (often giving rise to both large and small colonies on further cultivation, however), pleomorphism, lack of motility, gradual return of sensitivity to the bacteriophage, high titers with *S. meleagridis* antiserum, and positive trypanflavine tube tests.

One strain was chosen from each group for the immunization of rabbits. The completely resistant group was represented by strain 1L1 and the relatively sensitive group by strain 4S1. Antiserum for 1L1 reacted not at all with *S. meleagridis*, and to a titer of only 1-160 with 4S1; with *S. anatum* and *S. newington* it reacted to a homologous titer (1-1280). Antiserum for 4S1 had a titer of 1-2560 for 4S1, 1-160 for *S. meleagridis* (parent strain), and approximately 1-160 with 1L1, *S. anatum* and *S. newington*.

The type strains of Group E (*S. anatum* and *S. newington*), the *S. meleagridis* parent and derived strains, and some other members of the group were tested with single factor serums. 1L1, the derived strain of *S. meleagridis* which was completely resistant, possessed the full complement of somatic factors characteristic of the type strain. The parent strain, however, failed to react in the single factor serums. The temporarily resistant strain, which was slightly autoagglutinable, reacted weakly. Other strains of Group E tested gave the expected reactions.

Dependability of testing fluids was checked by use of adsorbed serums currently employed by another laboratory in the typing of *Salmonella* cultures. The results were identical. Later, however, the three *S. meleagridis* strains were sent to a third laboratory for further checking. Here it was found that the parent culture as well as the completely resistant strains reacted normally in the adsorbed serums, whereas the temporarily resistant strain again reacted only weakly.

Reciprocal adsorptions of the serums against the two type strains and the parent and derived strains of *S. meleagridis* were carried out. It was found that although *S. meleagridis* parent and 4S1 strains were scarcely agglutinated by *S. anatum*, *S. newington*, or *S. meleagridis* 1L1 antisera they reduced the titers of these serums for their homologous strains considerably. Adsorptions of antisera for *S. meleagridis* parent and 4S1 strains with *S. anatum*, *S. newington*, or *S. meleagridis* 1L1,

however, left the serums with titers essentially unchanged. The parent and 4S1 strains of *S. meleagridis* each reciprocally reduced considerably or entirely the homologous titer of the antiserum against the other.

Four additional strains of *S. meleagridis* were obtained from the Army Medical School. One of these strains was inagglutinable in any serum. Its colony form was somewhat rough and it gave a positive tube test for "roughness" by Pampana's method. The other three strains were agglutinated to low titer by *S. meleagridis* parent and 4S1 serums and to homologous titer (1-1280) by *S. anatum* and *S. meleagridis* 1L1 serums. When these three strains were used to adsorb antiserum prepared against the parent strain of *S. meleagridis* (156), they reduced its homologous titer only slightly if at all. The homologous titer of anti-4S1 serum however was reduced to titers ranging from 1-40 to 1-320. Adsorptions of 1L1 serum resulted in removal in all or almost all of its homologous agglutinins.

Two rough *Salmonella* strains from other groups were inagglutinable in any serum, and on adsorption the one which was tested failed to reduce the homologous titer of *S. meleagridis* 156 antiserum.

The same 4 *S. meleagridis* strains were tested for susceptibility to a stored sample of the bacteriophage used to obtain the variants. The rough strain was completely resistant. The other 3 strains were susceptible, but somewhat less so than either *S. meleagridis* or *S. newington* at this time. Other strains of Group E tested were non-susceptible to 10^{-1} dilutions of the lytic principle.

Explaining these results in the light of the framework or alternation hypothesis of antigen-antibody reaction, it would seem that the 156 strain of *S. meleagridis* possesses a hitherto unrecognized factor "x", which so dominates the bacterial surface that the somatic factors associated with the species are partially or completely inactive. That factor "x" may consist of more than one antigen is shown by the fact that 4S1 serum can be completely exhausted of agglutinins by the parent strain, but adsorption of serum against the parent strain with 4S1 fails to exhaust it of homologous agglutinins.

The possibility that both the parent strain and 4S1 represent varying degrees of roughness was considered. 4S1 had a tendency towards autoagglutination and gave a positive trypanflavine test. The antisera prepared against these organisms, however, do not show the wide reactivity of "rough" antisera. The 156 strain shows the cultural characteristics of smooth strains to perhaps a greater extent than many of the organisms which reacted typically in single factor testing fluids. Furthermore, a bacteriophage active on one rough strain is usually active on all rough strains, but of all the known rough strains tested none was susceptible to the bacteriophage active on strain 156 of *S. meleagridis*.

As a result of these studies the following facts emerge: (1) *S. mele-*

agris 156 possesses a new somatic factor "x" hitherto unrecognized in Group E; (2) bacteriophage susceptibility in this instance is associated with the presence of factor "x"; (3) factor "x" offered steric hindrance to the expression of the factors usually attributed to *S. meleagridis*; (4) when factor "x" is removed by the action, selective or otherwise, of bacteriophage the factors of the type strains become dominant. The above facts show that the acquisition of bacterial resistance to the lytic principle may involve antigenic changes or rearrangements which do not come under the heading of S-R or R-S variation. It is suggested that the use of bacteriophage may give a clue to the identity of strains not readily typed.

SIX TRAGEDIES OF AARON HILL

by FIELDING DILLARD RUSSELL*

Between 1709 and his death in 1750 Aaron Hill wrote ten tragedies all of which were produced, a record unequalled by any other tragic dramatist of the period. Six of these plays, all but his Voltairean adaptations, are the concern of the present study. In these, as in perhaps those of no other dramatist of the period, are revealed the typical influences and practices of the time. Among them are to be found the continuation of the native tradition—adaptations of Shakespeare and Massinger, Elizabethan domestic tragedy, and the heroics and pathos of the Restoration. Running through them all is a certain adherence to the pseudo-classical dicta. The *modus operandi* of the present dissertation is in the case of each play to trace in detail matters relating to its inception, stage production, and publication.

Hill's first tragedy was *Elfrid: or, The Fair Inconstant* (1709), which he composed in a week. The plot is restricted, the dramatic time being no longer than that of the stage representation. Sent by King Edgar to determine if the fair Elfrid is worthy to become his queen, Athelwold falsely demeans her beauty and marries her himself. When Edgar pays the couple a surprise visit, Athelwold confesses his deceit to Elfrid and persuades her to remain in seclusion, allowing her sister, the less attractive Ordella, to impersonate her during the King's visit. Athelwold's plan goes awry when Egbert, the villain of the piece, discloses the subterfuge, and Elfrid, more ambitious than faithful, shows herself to the King. Determined to have Elfrid, Edgar sends Athelwold on a journey. Athelwold departs but is warned to return by the ghost of his father. Surprising the King as he comes from Elfrid's bedroom, Athelwold attacks him. When Elfrid appears, he kills her but in turn is run through by the King. Both men are reconciled before Athelwold dies, and the King closes the play with a warning to those who tread the path of fatal love.

Elfrid went through six performances and appeared in two editions, one in 1710, the other in 1760 in the collected edition of Hill's dramatic works. Textual changes in the second edition indicate that Hill began a revision either for a new performance or a new edition, but gave these over and turned to the writing of *Athelwold*, his later tragedy on the same subject.

In writing *Elfrid*, Hill followed two dramas of the Restoration, the *King Edgar* and *Alfreda* of Edward Ravenscroft and the *Edgar: or, The English Monarch* of Thomas Rymer. His arrangement of the story and its dramatic structure are similar, but that he was not a

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slavish adapter is seen in his disregarding certain of the elements of these earlier plays and adding his own innovations. Without displaying an absolute indebtedness to any one drama, *Elfrid* also reveals the influence of the heroic and pathetic traditions as these are found in the plays of Otway, Banks, and Rowe. Though not strong, echoes of the Shakespearean are caught in *Elfrid*. In fusing these diverse elements within a pseudo-classical structure Hill has created, if not a noteworthy drama, a typical Augustan tragedy.

In 1731 Hill produced *Athelwold*, a tragedy founded on the same story as that in *Elfrid*. Yet the plot of *Athelwold* is entirely different and vastly more complicated. In marrying *Elfrid*, *Athelwold* not only complicates his relations with King Edgar but he also wrongs *Ethelinda*, whom he has seduced before the play opens and to whom he has vowed his love. More noble than in the earlier play, Edgar does not cuckold *Athelwold*, although he does attempt to force him to give up *Elfrid*. This character, too, is more virtuous, rejecting the King's advances and vowing to enter a convent when he would have *Athelwold* renounce her. The action is resolved when *Athelwold* and *Ethelinda* kill themselves.

Athelwold was performed three times and went through five editions between 1731 and 1760, one of these appearing in Dublin. The essential importance of *Athelwold*, however, lies not in the number of its performances or editions but in the records surrounding its genesis and production. From the letters of Hill and a few of his contemporaries, notably Pope, Thomson, Mallet, Wilks, and Booth, one is able to construct almost a day by day history of *Athelwold* from its composition down through its production and publication. In this record one is able not only to follow Hill at work on this particular play but also to observe most of the problems which beset a typical eighteenth-century dramatist in his attempts to bring a tragedy upon the stage.

For his primary source material for *Athelwold*, Hill once more turned to the plays of Ravenscroft and Rymer. Although still not a servile adapter, he does move toward a closer conformity to their plays in both structure and treatment. In addition to the influence of Ravenscroft and Rymer, *Athelwold* continues the use of the heroic and pathetic, with probably the influence of Rowe being dominant. Only dim reminiscences of Shakespeare are to be discerned.

Possibly representing an over-all improvement over *Elfrid*, *Athelwold* still cannot be called a good tragedy. After some twenty years as a dramatist and man of the theater, Hill is still groping, it seems, for he knows not what. Overlooking his opportunity to develop to the full the dual personality he has but dimly sketched in the character of *Athelwold*, Hill has tried to combine and tie together too many diverse elements and has over-complicated his action with too many incidents.

Though he deserves some credit for his efforts to costume the play properly, his *Athelwold*, neither better nor worse than the general run of eighteenth-century tragedy, was hardly good enough to meet the overwhelming competition of the lighter forms of dramatic entertainments.

Predominantly heroic is *The Fatal Vision: or, The Fall of Siam* (1716). The plot is dizzingly complicated. Years before the play opens, Uncham, Emperor of China, has been told in a vision that his queen Caimantha, who has already borne him two sons and is now pregnant, will bear a son who will kill his father and mount the throne. To forestall this doom Uncham has decreed the banishment of Caimantha to an uninhabited island. The action of the play, however, fulfills the vision and Uncham dies for his crimes of rage, rashness, and superstition. Startling disguises and revelations motivate the dénouement. Selim, a eunuch and closest adviser to Uncham, turns out to be the supposedly long absent Caimantha. Orontes, a captive Siamese general, appears in the end as the third son. He does not kill his father but is indirectly the cause of his death. In an attempt to save the lives of his two brothers who stand suspected as the intended murderers of their father, Orontes releases captive Siamese soldiers, who, attacking the royal palace, kill Uncham. Uncham dies acknowledging the justice of heaven, and Orontes and Ipanthe, captive princess of Siam, mount the throne.

Seven performances constitute the stage history of *The Fatal Vision*, which saw publication in two editions, the first of 1716 and a second in the collected dramatic works. The dedication of the printed play is one of the most unusual ever written. At a time when writers and critics were continually at war, Hill blandly dedicated his play to the critics Dennis and Gildon. And for his remarks on acting and staging, expressed in the dedication, he has been accorded the honor of being a pioneer in the improvement of dramaturgy.

The chief influences upon *The Fatal Vision* are the heroic dramas of the Oriental type and the accounts of voyages and travels. The pathetic, though weaker than in Hill's other tragedies, is employed. In treating the theme of rage and rashness, Hill may have glanced at Shakespeare's *Lear*. Astonishingly enough he makes his markedly heroic play conform to a rather rigid pseudo-classical structure.

Not a great drama, *The Fatal Vision* nevertheless possesses certain characteristics which make it distinctive. Its dedication is certainly unusual, its attempt to build a predominantly heroic action on a strictly pseudo-classical structure is notable, and its complicated plot is worth at least a smile. No more than a reasonably able specimen of eighteenth-century tragedy, its author deserves some recognition for his efforts with its decoration, both with regard to dresses and scenes, and his attempts to see that its cast effected a more natural manner of acting. Of addi-

tional interest, too, is its allusion in the epilogue to the rivalry between Drury Lane and Lincoln's Inn Fields and a probable indication in the play of the fact that Hill in writing his drama was attempting to better Addison's *Cato*.

The Fatal Extravagance (1721), important as a domestic tragedy and for its use of a contemporary setting, poses a question of authorship. Evidence afforded in the printed play points to Joseph Mitchell as the author, with Hill as an acknowledged contributor or collaborator. Other reliable contemporary testimony, however, asserts that Hill wrote the play and presented it to Mitchell. Apparently misappraising this testimony, two recent writers attempt to strengthen Mitchell's hand in the play, but do not deny Hill a part as collaborator.

In one act and with but four characters supporting the action, *The Fatal Extravagance* is about as well constructed a drama as the eighteenth century has to offer. Its plot is compact, the story simply told. Bellmour, having wasted his fortune in gaming and speculation, dreads the poverty facing his family and becomes distracted when he hears that his friend Woodly, who is surety on his defaulted bond held by Bargrave, the usurer, has been dispossessed of his home and carried to prison. When Bargrave arrives at Bellmour's house, Courtney, uncle of Bellmour's wife Louisa, barricades the door and offers to hold him at bay until Bellmour can effect his escape. Instead, Bellmour, hoping he may win some compassion for Woodly, agrees to a parley with Bargrave. Finding the usurer adamant, he provokes him to draw and kills him. Then, taking the bond from Bargrave's pocket, he requests Courtney to deliver it to Woodly. Faced with the murder of Bargrave, Bellmour decides to kill himself and family. When his wife and children, off stage, have apparently drunk the poisoned cordial he has prepared for them, Bellmour calls Louisa in, tells her it was poisoned and stabs himself. We learn from Courtney, however, that he has discovered the cordial and substituted a harmless drink. Bellmour, before he dies, is made happy through the fact that his family will be cared for by a fortune to which he has fallen heir.

The principal source of *The Fatal Extravagance* is *A Yorkshire Tragedy*, the Elizabethan domestic tragedy which Hill and his contemporaries ascribed to Shakespeare. Close comparison of the two plays reveals that far more than the hint of the story confessed in the preface to the play has been contributed by the earlier drama. The plot, characters, incidents, and dialogue, some passages of which appear almost word for word, are closely employed. There are also discernible in *The Fatal Extravagance* some of the same ideas which Hill makes use of in *The Fatal Vision*, especially in the matter of moral purpose. The pathetic tradition is in evidence, with Rowe's words on the use of domestic themes (in the prologue to *The Fair Penitent*) being practically

repeated in Hill's prologue. If the influence of Shakespeare is at all recognizable, it is to be found in a soliloquy of Bellmour which may have been inspired by Hamlet's famous one.

With *The Fatal Extravagance* Hill made his most substantial contribution to English drama. Today he is recognized as a forerunner of Lillo in his contribution to the development of the later *Schicksals-tragödie*. Some influence of his play is to be found in Lillo's *The London Merchant* and Edward Moore's *The Gamester*. Francis Waldron's *The Prodigal*, except for its title and happy ending, is *The Fatal Extravagance* practically unchanged.

Henry the Fifth: or, The Conquest of France by the English. Hill's adaptation of Shakespeare, appeared in 1723. In his preface Hill avers that his play is a new fabric but acknowledges that he has built on Shakespeare's foundation. Having cut the length of the original by more than a half through the elimination of all comic scenes and characters, condensed, transposed, and reassigned incidents and lines at will, curtailed both time and place, and, finally, having added one or two innovations, Hill no doubt felt justified in saying that the fabric of his play was new. Yet with all these changes the reader is still able to recognize Shakespeare's foundation. The play opens before Harfleur where Henry, after a council in which he decides he has a right to the French throne, receives and dismisses a French embassy who bring an insulting message and gift of tennis balls from the Dauphin, and goes off to receive the capitulation of Harfleur. In his absence the traitors Scroop, Grey, and Cambridge, their number augmented by the addition of Harriet, abandoned mistress of the King, meet and plot the death of Henry. Princess Katherine, though in a heroic rage over the rumor that her father plans to win Henry to terms by offering her in marriage, is yet too noble minded to join the Dauphin and Harriet in the plot against the English King. The two kings meet at a peace conference at which Katherine identifies Henry as the Owen Tudor, who, some years before, had visited the French court and for whom she had formed a secret love. Lest this discovery frustrate his plans to engage Henry in battle, the Dauphin provokes him to anger, and both sides prepare for war. With information which he owes to Katherine, Henry discovers the plot against his life. Harriet—throughout the whole play she is in man's dress—is brought before him as one of the traitors. In a long scene between them Harriet reveals herself, and Henry so touchingly expresses his remorse over his treatment of her that she identifies the other traitors and stabs herself. Henry condemns the traitors to execution and has an opportunity to thank Katherine for saving his life. At the Battle of Agincourt, which follows, the English rout the French, and the play ends with the Dauphin's acceptance of Henry's earlier demands and the offer of Katherine, whom Henry joyfully receives.

Henry the Fifth was performed six times and went through as many editions. Four of these appeared in London, the first of 1723 being followed by the second in 1746, another in 1760 in the collected dramatic works, and a designated third edition of 1765. Of the two other editions, one appeared in Dublin in 1724, the other in Edinburgh in 1759.

The extant records pertaining to the production of *Henry the Fifth*, though not quite so extensive, are equally as valuable as those pertaining to *Athelwold*. It was with this play that Hill hoped to establish his own company at the Little Theatre in the Haymarket. Being thwarted in this effort, he persuaded Drury Lane to produce it, probably because he was willing to give the profits to the managers and spend two hundred pounds for new scenes. One of the most interesting incidents found in the periodicals, was a minor literary war occasioned by the production of the play, the partisans of Hill extolling the play beyond *Henry the Fifth*, and the defenders of the Elizabethan, zealous in Shakespeare's defense, yet at times guilty of censuring some of his lines because they mistook them for Hill's. Even Hill wrote a letter to one of the periodicals in defense of his play, though it was never published.

In adapting his play Hill did not restrict himself to Shakespeare's *Henry the Fifth* but borrowed lines and ideas from several others. In addition to his dependence upon Shakespeare, Hill seems to have taken his idea of using Owen Tudor from Orrery's *Henry the Fifth* and, from the same play, to have shaped the tone of some of his dialogue. In his Harriet-Henry episode he turns to the pathetic of Otway and Rowe, echoes of *The Fair Penitent* being especially noticeable.

Though equaling the average run of a new tragedy in the eighteenth century, the six-day performance of *Henry the Fifth* hardly compensated Hill for his labor, his expenditure of money, or the criticism received. To the student of eighteenth-century tragedy, however, his efforts, made doubly significant because he is here working with Shakespeare, comprise a valuable testimony to the trials and tribulations of the tragic dramatist in a period when tragedy received but little honor.

In 1746, three years before his death, Hill composed his last play, *The Insolvent: or, Filial Piety*, for Theophilus Cibber, who did not produce or publish it until 1758, at which time it was presented for one performance. Two later editions appeared, one in the collected dramatic works in 1760 and the other in Dublin the same year. Essentially an alteration of *The Fatal Dowry*, *The Insolvent* does not derive directly from Massinger's play but indirectly from a lost manuscript play *The Guiltless Adulteress*, itself an adaptation of *The Fatal Dowry* and ascribed to Sir William Davenant, though, it seems, erroneously. Hill, so far as is known, never realized that he was using one of Massinger's plays. The plot of *The Insolvent*, however, leaves no doubt

as to its original source. Touched by the filial piety of Count Chalons, Valdore, retiring President of the Court of Burgundy, discharges all the young man's debts and effects the release of the hot-headed La Foy, the bosom friend of Chalons. When Valdore places all his wealth at the disposal of Chalons and gives him his daughter Amelia in marriage, Chalons' joy and gratitude know no bounds. This happy state, however, is soon disrupted. Convinced by La Foy that his wife is unfaithful, Chalons feigns a journey in order that he may secretly return and surprise her with her lover, Young Aumele. He discovers Young Aumele with Amelia and kills him, locking Amelia in her room to await the judgment of her father. When Amelia is released, it is discovered that she has stabbed herself and is apparently dying. In the scene which follows, her innocence is completely vindicated, and the doctor who has arrived in the meantime says that she will recover from her wound.

Although *The Fatal Dowry* is the basis of *The Insolvent*, there are evidences enough in the play of the influence of other sources, especially *The Orphan of Orway* and *The Fair Penitent* of Rowe, an earlier adaptation of Massinger's play. Hill's borrowings, to be sure, cannot always be distinguished from those of the adapter-author of *The Guiltless Adulteress*, but we have his word that he rewrote the whole of the manuscript play and made the last act entirely his.

When all is said, *The Insolvent* is still but a poor adaptation of a far better seventeenth-century tragedy. *The Fatal Dowry* possesses genuine tragic elements which are motivated to a really tragic conclusion. In Hill's play these appear forced and superficial, and expectation is wrenched by the happy ending. No genuine tragedy, in fact, is apparent in the whole play, only a near-tragedy which, dependent upon an artificial suspense, is never realized. In his last play, even as in his first, Hill displays that uncertainty of purpose so characteristic of the tragic dramatists of his age.

That Aaron Hill was not a great dramatist, the present study makes clear. Yet in his plays and the records relative to their composition, production, and publication, one is able to follow, often closely and interestingly, the problems which beset the tragic dramatist in the first half of the eighteenth century. Hill, moreover, deserves some remembrance beyond that accorded his plays as such. For all of his flaws he enjoyed a relative eminence among his contemporaries. And we can but admire his abiding interest in and zeal for the theater. His efforts to improve costuming, staging, and the art of acting place him with the few who earnestly tried to forward these matters in the eighteenth century.

GEORGE POWELL: PLAYWRIGHT-ACTOR

by KATHRYN MARGUERITE PAINTER WARD *

The span of George Powell's life, from 1658 to 1714, wrought momentous political, philosophical, and social changes, but it seems highly doubtful that George Powell had more than a casual interest in them. He knew little beyond the playhouse in Drury Lane and the tempests that raged in the world of the theater. Unfortunately, it is possible only to speculate about Powell's early years. Others by the name of Powell are mentioned on the programs of Killigrew's actors, but it was not until April 1687, after the union of the Duke's company with the King's players, that George Powell first stepped on the stage of documented theater. The production was a tragi-comedy, *The Island Princess; or, The Generous Portugals*, as Tate had altered it from Fletcher. The play was diverting enough to win the patronage of James II, and it is possible that Powell in his part of few lines and no importance later appeared before the King and Queen.

Within a few weeks he appeared in a new play, a farce. As Don Cinthio "Young Mr. Powell" played the title role in Aphra Behn's *The Emperor of the Moon*. The play found its way to Whitehall and a troubled court in December 1687. Affairs of state, however, did not press so heavily upon the King that he forgot the players, for on July 12, 1687/8, James authorized a fresh troupe of comedians which included George Powell.

Meanwhile, momentous events were shaking all England. People of every rank took alarm at the birth of a Prince of Wales. Ardent patriots who had seemed to await patiently the death of James were now aroused to open rebellion. A Catholic imposture was suspected in the birth, and William of Orange intervened. The Whig government had no enthusiasm for the playhouse, but the new monarchs continued a show of friendly relations between the Court and the theater. Powell was a member of the band of comedians in ordinary formed by the King in August 1689.

In four successive plays, George Powell appeared as an unprincipled rake before his role of Muley Zeydan in Dryden's *Don Sebastian*. Dryden gave the audience what they wanted: a conflict between love and honor, not confined to the neo-classic rules of unity, but tempered with rant and bombast. Although he soon appeared before the Queen twice more, Powell was not satisfied. At thirty-one he was a good actor, yet so far he had always been forced to play secondary roles. He would write a play as the actor Mountfort had done; he would follow the pattern of Dryden's play; he himself would have the leading role.

* A.B. 1935. A.M. 1936, The George Washington University; Ph.D. conferred November 11, 1947.

For his first play, *The Treacherous Brothers*, Powell turned to Thomas Bayly's *Herba Parietis: or The Wall Flower*, a heroic romance of 1650. Bayly's elaborate story is told with grace and sprightliness, and George Powell could have done far worse than select the plot as the basis of his first drama.

Powell may well have searched Dryden's preface to *Don Sebastian* for the formula of his play. *The Wall Flower* offered him all the elements of the heroic: the confusion of love and jealousy, the tangle of unhappy lovers, the martial tones of the ardent heroes, and the steadfast virtue of the heroines. To all these Bayly had added the complication of incest and a Machiavellian villain. Here were the ingredients that should please the taste of every Restoration playgoer. The part of the prince gave opportunity for an actor to show himself to great advantage. In Mountfort's own drama, the author had played the principal role, whereas Powell had been forced to content himself with a secondary part. In his *Treacherous Brothers*, Powell played the prince; Mountfort was the villain.

With considerably more perspicacity than one might expect from an inexperienced playwright, Powell pared down the work of Bayly to dramatic proportions and encased it all in blank verse that rarely sinks below the heroic demands of the story. From the complicated plot of the novel, Powell chose with a keen eye on staging and dramatic unity and rearranged the relationship of characters to involve directly all the principals in a single episode. Thus focused, *The Treacherous Brothers* was presented at the Theater Royal in Drury Lane, probably in February 1689/90.

Although George Powell did not confess his obligation to Bayly when he committed his "publish't Bawble" to the reader's hands, the debt is obvious in the borrowing of the plot and the utilization of the characters.

In the extravagance and vehemence of its rant, the *Treacherous Brothers* emulates the turgid bombast of Lee and Otway, of Dryden in his worst vein, but the tragedy does not merit Doran's sweeping criticism that "Powell's literary contributions to the drama were such as a man of his quality was likely to make,—chiefly plagiarisms awkwardly appropriated". The conflict of characters is purely external, yet the plot is skillfully developed even to the last-minute rescue of Ithodes and Semanthe. Genest's opinion that it is "a moderate tragedy" seems just, and the epilogue to the drama indicates that the playgoers of 1689 filled the house.

A year had passed since his first appeal when George Powell begged a good third day for *Alphonso, King of Naples*, the second play of his own devising. *Alphonso* was a tragedy in the heroic mold in which Powell created more of the plot than he borrowed. If, however, the

word is extended to include language and characters, then Powell is heavily in Shirley's debt. The characters he took over whole; the language he copied with only insignificant emendations.

The story of *Alphonso* was certainly suggested to Powell by Shirley's *The Young Admiral*, a romantic comedy. Although the epilogue to *Alphonso* admits a borrowed plot, there seems little reason for emphasizing this particular element of construction. As a matter of fact, very little of the actual story of *The Young Admiral* is found in Powell's tragedy. Furthermore, faint suggestions of *As You Like It* are to be discovered in the rural wanderings of Cesario and Urania. The occasional songs which embellish Powell's work are not in Shirley's tragic-comedy; however, Shakespeare often used such songs. By closing his drama with the tragic deaths of the principals, Powell abandoned the Elizabethans, who seemed to prefer happy endings when they laid their scenes in nature. But if Powell did not conform to the earlier romantic concept of idyllic shepherds, he did accept the characters of Shirley, without properly crediting his source, when he began his "mushroom" scribbling.

Although Powell went far afield in the matter of plot when he adapted Shirley's romantic comedy to the Restoration stage, he stuck remarkably close to *The Young Admiral* in the matter of language, for which he acknowledged no debt. Even the most prosaic and least meritorious utterances of Shirley's characters are taken over bodily by the tragic figures of Powell. Shakespeare was apparently the inspiration for some of Powell's lines, for when the younger playwright turned momentarily from the play that was his primary source, he seldom went far on the wings of his own imagination. Some of the lines are reminiscent of *Hamlet*. These would seem to indicate that Powell either deliberately or subconsciously remembered well the language of Shakespeare.

Both in originality of language and in construction of plot Powell's first effort at play writing surpassed his second. When he devised a close-knit plot from a rambling romance to produce *The Treacherous Brothers*, he achieved a degree of success which he failed to equal when he abandoned the plot of Shirley while keeping to the language of *The Young Admiral*.

March 1691, the approximate date of Bussy D'Ambois, in which he played the role of villain, marks a hiatus in any chronological account of the life of George Powell. His activities from the time of his appearance in D'Urtrey's tragedy to November 1692, when he acted in Shadwell's posthumous comedy *The Volunteers: or, The Stock Jobbers* have been totally eclipsed by time.

The winter of 1692-1693 held in store a change for Powell, a movement of events which began in tragedy and ended in personal triumph. In early December, Mountfort, his only contemporary rival in the

theater, was waylaid in the street near his home, attacked, and killed by Lord Mohun and Captain Hill. Within the same month, Mountfort's death was followed by that of Anthony Leigh and John Noakes. Fortunate it was for the theater that George Powell remained to fall heir to Mountfort's parts. In quick succession he was cast in one of South-erne's comedies and in a new comedy by Congreve.

Then, with four or five plays open before him, George Powell sat down to the composition of his first comedy. Dipping in here and there for a character or an episode to his liking, changing a name to suit his fancy, and jumbling scenes in the manner of an acrostic, the dramatist selected and rejected according to a shifting pattern. So, about a month after his appearance in Congreve's successful *Old Batchelour*, Powell offered *A Very Good Wife*.

In spite of the author's inept editorial tinkering, the play was well received by the audience, for George Powell was first a showman and only incidentally a playwright. He was fortunate in being able to assemble a lively cast for his bow at the theater Royal, the leading role being reserved for his own talents.

Sadly lacking in original inspiration, the patchwork farce nonetheless satisfied the audience to which it was directed. Surface bantering with an undercurrent of serious feeling had long since pleased theatergoers. From the times of Falstaff, husbands and wives had been applauded when they legitimately clung together to confound a would-be gallant. And avarice was a crime which Portia had cleverly shown was punishable by ruse. In combining these tested themes, Powell proved an acute observer of public taste, for the audience of the seventeenth century approved where they found a scene or character familiar.

If Powell's concoction was in part Shakespeare filtered through his followers, the residue was a palatable mixture not only because he knew his audience, but because he knew intimately the physical stage. What he lacked in dialogue and character, he made up for in staging. He set his comedy frequently in the open where people would be likely to congregate. He guided his actors on and off in rapid and logical procession, and for the most part he kept them in almost incessant action.

Thus, in spite of his "barbarous Rape" on five comedies to produce his own, in spite of his altering "for the worse, rather than for the better, what he has stolen", Powell did please his audience with *A Very Good Wife*.

The season of 1694, though gaily ushered in, was destined to experience grave vicissitudes before the year was over. The spectre of debt had shadowed His Majesty's servants at the Theater Royal almost from the first years of the Restoration. The shadow had only grown more ominous under Royal patronage; it had led to the union of the two companies in 1682; it caused frequent quarrels between the Patentees and

the actors; and it finally burst into a tempest in December 1694, when Thomas Betterton laid the actors' lengthy petition before the Earl of Dorset. The petitioners declared they were "noe longer able to suffer & Support themselves" and asked to have a day for hearing the complaints appointed. Indignantly, the Patentees replied to the charges. The death of Queen Mary, which meant a temporary end to all public entertainment, provided Betterton with the necessary time to press the demands of the actors who had joined him.

For a while the dilemma seemed impossible of solution. Could later authority, puzzled the lawyers, overcome that already granted? The Lord Chamberlain's advisers finally answered the question affirmatively: no patent for acting plays, they said, could prevent a succeeding ruler from granting similar patents when he chose. William turned a sympathetic ear to his favorite player, Betterton, and on March 25, 1695, granted a license to the mutineers, giving them authority to form a new company.

In April 1695, George Powell threw down the glove to the veteran rivals by speaking the new prologue to *Abdelazer: or the Moor's Revenge*. In the weeks that followed Powell gradually assumed command of the actors under Rich of the Drury Lane house. But despite the industry of the younger players, they were soon overshadowed by the opening of the Lincoln's Inn Fields theater on April 30, with Congreve's *Love for Love*.

For months the battle raged, with each group trying to outdo its rival. Tricks, secret strategy, appeals to the spectators for support, revival of old popular roles—all were tried by Powell. Then, in September of 1695, when the battle was at its fiercest, George Powell stepped on the stage of Drury Lane to speak the challenging prologue he had written to his *Bonduca*, which had been revised and produced within the brief span of two weeks.

Luckily enough, Powell's choice led him to Beaumont and Fletcher's *Bonduca*, for the tragedy provided a noble role, and besides it presented Henry Purcell an opportunity to exhibit his flair for adding catchy tunes to contemporary drama, all the rage with London playgoers. The preface admitted "several alterations, besides the two First Acts New Writ", but the confession fell short of accuracy. Alterations there were aplenty, but they were largely verbal and consisted merely of modernizing and forcing the original words to conform to contemporary idiom. Powell had snipped away from the older tragedy until only a small part of the original fabric remained untouched. The size was altered to fit the smaller stature of the Restoration audience, and the ornamented: it had airs which the playgoers could hum as they left the theater; it had an epilogue that they could repeat at the Rose Tav-

ern; it had, above all, a bold prologue that very much needed answering. As the summer of 1696 overtook the players, George Powell closed the season with *The Cornish Comedy*. When he produced the play, he overlooked nothing in his bid for public approval. Knowing public taste full well, he turned to music and dancing as the proper accompaniment of drama.

Although the method of adaptation in *Bonduca* is so strikingly like the method Powell employed earlier that the tragedy seems justifiably ascribed to the actor, *The Cornish Comedy* bears no affinity to the typical Powell system. The art of his four earlier plays was predatory; *The Cornish Comedy* was original in plot and language. If the characters of the comedy seem familiar, the marks of resemblance are to characteristics of a class rather than to a particular prototype. The playwright was more than a casual scholar.

In the comedy, there is a lightness of touch especially remarkable in the subtlety of suggestive innuendo and a thoroughgoing knowledge of dramatic tradition. But, above everything, *The Cornish Comedy*, while belonging to its own period, demonstrates the vigor of the Restoration stage. Despite the not inconsiderable merits of the play, it has won little recognition. Marked by an exuberance of animal spirits and a competence of language, the play is essentially an original work. And though the author would appear to be a man of greater resources and imagination than George Powell, a man of native wit and good-natured humor, who gently poked fun at the hypocrisy of false taste in his preface while he slyly made his point in the play itself, the director of the Drury Lane players made a generous contribution to the success of the comedy. Powell's strong point lay in his intimate knowledge of stagecraft, and no matter how clever the writing, it remained for the actor-manager to translate the author's words into action, to set the swift and irresistible tempo of the comedy.

Although John Verbruggen added his name to that of George Powell in the dedication, where a nameless parent is admitted, not even what appears to be a deliberate attempt at confusion could obliterate the trail which leads unmistakably to the doorstep of George Powell as the author of *Brutus of Alba*. The acknowledged writer of *A Very Good Wife* was again busy with his scissors and paste pot, and in October 1696, he brought forth a new offering at Dorset Garden. The new production with music by Daniel Purcell took the form of an opera, a term loosely applied in the Restoration period to any play lavish in scenery, machines, singing, and dancing.

From the shelves which housed "the choicest Productions of Nature improv'd by Art" Powell selected illustrious collaborators for his new endeavor: Tate, Massinger, Dryden. As for scenery and decoration, Powell now had at his disposal at Dorset Garden theater all the costly

decorations and sets which Betterton had used earlier in the Dryden opera, *Albion and Albanus*. In addition to these trappings, he managed to contrive a cloud that rose out of the earth to deposit on its ascent a giant wind-mill which, after dancing country folk had issued from it, turned into a fearsome witch. From the witch came dancing devils who cavorted with the witch and then sank with her back into the earth. Furthermore, by far the most pretentious cast that Powell had ever marshalled was divided into actors, singers, and airy spirits.

Despite all his borrowings, George Powell achieved a total effect that was not lacking in harmony. True, a dissonant note is sounded in the characters of Hersius and Spungias, whose presence in seventeenth century romantic opera seems to violate all rules for the genre, but their voices are not sufficiently persistent to result in cacophony. The playgoers' desire for spectacle was satisfied, and while the action fails to move by its words, it achieves momentum by the never-failing resources of its author in the arrangement and general handling of effective scenes. Momentarily popular, *Brutus of Alba* soon died of its own encumbrances. Today, it must take its place among George Powell's happiest achievements, a mummified curiosity.

Not only was there the feud between George Powell's group and the rivals at Lincoln's Inn Fields but also, shortly after the production of *Brutus of Alba*, George Powell broke with Colley Cibber. The breach was widened and made public by a series of verbal attacks. Jealous and insulting words flew; actors and playwrights took sides. So popular did backstage revelations become, that the anonymous W. M. who provided *Female Wits: or the Triumvirate of Poets at Rehearsal*, was so bold as to point the satire directly at actors and authors. For all its broad comedy and caustic satire, *Female Wits* is the most valuable single document treating George Powell the actor. It seems closest to painting a full-length portrait for which the subject himself was the model and to which he gave his personal approval. By implication tall and handsome, tactful and charming, Powell remained nevertheless, dignified, tolerant, good-humored. Such a player, attentive and elusive, careless of life and reasonably drunken, women in and out of the company found attractive.

The author of *Female Wits* amusingly satirized Powell's ranting style. Both *The Tatler* and *The Spectator* had criticized him for over-acting, for excessive heat of performance. George Powell cannot be blamed for the taste of his audience, and in a letter of his to *The Spectator*, the actor suggests that he himself saw the folly of noise and bombast as a means of expressing grief.

Although Powell was quick to the fray when he believed his personal dignity assailed, the tact which the writer of *Female Wits* ascribed to the player is borne out, perhaps unwittingly, by Cibber in his account

of Powell's handling of the players whom he directed after the division of the company. To rise above sneering disparagements or childish tempers when things were not going well, to give new hope as days dragged into weeks and promises produced no substance, to fire a group to action and keep it merry on an empty stomach—these are feats at which few men have ever succeeded. That George Powell accomplished them marks him as a man of exceptional charm and abounding energy; a man, moreover, with resources of wit and good nature, who dared to laugh in the face of fortune.

In September 1697, George Powell opened the Drury Lane house to present *Imposture Defeated: or, a Trick to Cheat the Devil*, a comedy of his own contriving. Again Powell appeared to be up to his old tricks, but this time he stood accused of borrowing from a new play, not yet produced; and its author, Mrs. Pix, was loud in her protests. However, a controlling part of his comedy, suggested in the subtitle, "A Plot to Cheat the Devil", has never been traced to another source. The plot involving Bondi, it must be admitted, is cousin-german to Mrs. Pix' *Deceiver Deceived*, which saw the light in the rival playhouse three months after the production of Powell's play.

In the preface, Powell vigorously denied plagiarism, stoutly maintaining of Bondi that he "had that hint from a Novel." A careful comparison of the two plays leads rather to the conclusion that they had a common source than that one was modeled upon the other. Both plots would appear to have an ancestor in Chaucer's *Merchant's Tale*, and it seems only just to admit the probability of a seventeenth century analogue upon which both playwrights drew, particularly in view of Powell's insistence upon his innocence.

Imposture Defeated, unlike his previous efforts, reveals not a single line as borrowed. Powell's language is tough and sinuous, well suited to the persons of the characters, and to compare it to the language of Mrs. Pix is but to increase the value of Powell's offering. Moreover, with the exception of Bondi, the names of the characters in the two plays, and, more importantly, the characterizations of the principals, are strikingly dissimilar.

Powell's play was not confined to the deception of Bondi. Hernando and his dealings with Artan, suggesting vaguely Marlow's *Dr. Faustus*, form the central plot of the comedy and give excuse for the singing and dancing so dear to the theater-goers of the late Restoration period. The symphonies that delighted the ear, and the spectacles that charmed the eye, Powell again provided; and of the diverse entertainments he again produced a pleasing whole. Like the artist who mixes his colors in subtle proportions to achieve harmonious blend, Powell the stage craftsman worked cunningly from the palette of experience, and in spite of the fact that he had insisted, "It neither sets up for a Play, nor the

Author for a Poet", *Imposture Defeated* so accurately mirrored the taste of the audience that it far exceeded the third day for which its author prayed.

The battle between the houses had begun to languish when Dryden touched off the fuse in the complimentary verses he wrote to accompany Granville's tragedy *Heroick Love*, which bowed to the playgoers in Lincoln's Inn Fields in 1697. George Powell retaliated with *The Fatal Discovery: or, Love in Ruines*.

Its "unknown author" bears a striking resemblance to the acknowledged author of *The Treacherous Brothers*, both in method and manner. Stylistic tests are of little avail, since Powell writes with a curious neutrality of style that so varies with his inspiration as to make it impossible to attribute to him any specific passages. But Powell's technique of plotting is more nearly distinctive. For his first literary endeavor, he had cast a covetous eye at Bayly's romantic prose novel, *The Wall Flower*. The last drama sponsored by the actor-playwright was based on a story from *The Heptameron*. The earlier work showed the hand of a clever craftsman who knew the secret of heightening dramatic intensity by concentrating a diffuse plot; the later adaptation reveals the same telescopic agility.

More than ten years had elapsed since George Powell's first appearance on the Drury Lane boards in 1687. Slowly, Powell's star had risen. It had reached its zenith in 1695, at the division of the theaters. Now, in spite of occasional brilliance, it was waning, and a new star was rising to outshine the glory that was George Powell's—Robert Wilks returned from Ireland. With him came a record of good acting and the reputation of sobriety.

For some time Powell was engaged in problems of production as well as acting. According to Cibber, jealousy between Wilks and Powell reached a rupture, and Powell "cock'd his hat and in his passion walk'd off to the service of the company in Lincoln's Inn Fields". Whatever his reason for leaving, he met with a warm welcome at the drooping house of his former rivals. Here he appeared in a number of plays—Shakespeare revivals, other revivals, and occasionally in contemporary plays. His last effort for the house in Lincoln's Inn Fields was probably the role of Lovewell, which he acted in the single performance of David Crauford's *Love at First Sight*, produced in March 1704; for on June 17 he was back at the Drury Lane playhouse, acting *Volpone* for his own benefit performance. Perhaps Powell remained here until the spring of 1705, when he again turned his back on the young actors to join Betterton and his company in the new theater in the Haymarket. Shifting here and there, acting role after role in different houses and with different troupes, Powell remained a favorite. Still the versatile actor he had always been, George Powell created the part of Portius

in Addison's *Cato* when it began its long run on April 14, 1713. Against the inevitable Powell struggled on another year, reviving old roles and probably old quarrels, perhaps writing an occasional prologue or epilogue, and gradually sinking further and further into the solace of his bottle. The end came in 1714, and Powell was buried on December 17, in the vault of St. Clement Danes.

As far as he was literary at all, George Powell was only an opportunist who seized upon what he found at hand, whether tragedy or comedy or opera or novel, and shaped it to the satisfaction of his contemporaries. That his plays succeeded was the result of his practical knowledge of the stage, his sureness of touch in timing and arrangement; for Powell showed little of poetic fancy or brilliance of wit. He was an adequate but undistinguished playwright. Something remains, however, to be said for him as an actor. Here, to be sure, he failed to reach the eminence from which Betterton surveyed his fellow actors, but the distance which separated Powell from the first player of his age seems infinitesimal compared with that between him and the first playwrights—Dryden and Congreve.

One vainly searches Powell's plays, epilogues, and prologues for any penetrating commentary on life. Yet if a serious and consistent philosophy is lacking in his own writings, his cavalier philosophy is evident in the writing of his contemporaries. Every generation singles out its subjects for anecdote. To be among those so distinguished implies, of itself, popularity and prominence. Here, certainly, George Powell succeeded. Even Cibber, writing condescendingly of his fellow-actor in 1740, was moved to give Rich's high opinion of Powell's influence among the players; Vanbrugh laughed openly in a preface at the antics of the actor; Chetwood, more than thirty years after Powell's death, could still chuckle at Bowman's story of "gay Lothario". *The Tatler* and *The Spectator*, as well as *The Observer* and *Heraclitus Ridens* good humoredly abused or praised George Powell.

If the playwright-actor has left a heritage to the student of the drama in the twentieth century, it lies not alone in his acknowledged impudence as a dramatist nor in his implied arrogance as a player but also in the vital impact of his personality upon the theatrical world of his time.

A HISTORY OF TRADE UNIONISM IN LATIN AMERICA (WITH SPECIAL EMPHASIS ON THE POLITICAL ASPECTS)

by SARAH ELIZABETH ROBERTS •

The dissertation is concerned primarily with the political importance of Latin American trade unions. Latin American labor has always been unusually politically-minded. Innumerable instances of labor influence on politics (or of politics on labor) are therefore to be found in the history of the labor movement in the nineteenth and the early twentieth century in most countries of Latin America. This influence was achieved despite the very low standard of living of the average Latin American worker and his consequent inability to give much financial support to trade unions or to engage in strikes of long duration.

In the majority of nations, however, the political importance of labor seems to have reached a really significant point only in the last few years, and particularly since the beginning of attempts at inter-American labor unity exemplified in such organizations as the Confederación Obrera Panamericana and the Confederación de Trabajadores de América Latina. The dissertation is therefore concerned primarily with trade union developments, particularly in relation to political events, in the last thirty years although previous activities of trade unions are briefly summarized when available material permits.

As a background for the study of trade unionism in selected countries, a study was made of former and existing general inter-American labor confederations. The first of these was the Confederación Obrera Panamericana, created in 1918 at the initiative of the American Federation of Labor and Mexican labor groups. It never succeeded in attracting affiliates from the more industrialized countries of South America. It was utilized by labor organizations in many of the small Central American Republics, however, to intercede in the political difficulties of those countries. As a result, at times the majority of the resolutions adopted at its conferences dealt with political problems. Perhaps as an inevitable sequence to its political activities, the Confederación came in time to be attacked as a political instrument. The preponderant influence of the American Federation of Labor within the organization was seized upon by communist forces as an excuse to call it a tool of the "imperialist" interests of the United States. The organization also lacked one central unifying force or ideology to bind labor elements together in a common objective. As a result of these and other factors, the Confederación had lost most of its importance and influence by 1927.

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Certain other continental labor organizations were frankly political from their inception. The Asociación Continental de los Trabajadores, for example, was apparently created to propagandize anarchist principles, and the establishment of the Confederación Sindical Latino Americana was first seriously considered at a meeting of Latin American labor representatives in Moscow. Neither group had a very long existence.

The only existing general inter-American labor confederation (as of December 1947) is the Confederación de Trabajadores de América Latina. Established in 1938 at a congress called by the Confederación de Trabajadores de México, it has never failed to include in its conferences discussions of political situations both in Latin America and in countries in other parts of the world which met with its disfavor, and to adopt resolutions on the remedies it thought should be applied. Although for a long time it included among its affiliates labor organizations of all political complexions, its policies and leadership have gradually come to be identified as communistic in the minds of many Latin American workers. As a result, a number of its national affiliates have split into two factions and the anti-communist one has withdrawn from the Confederación. These latter factions were planning to join with other anti-Communist labor groups in holding a conference in Lima, Peru, in January 1948 for the purpose of forming a new inter-American labor confederation which would have as one of its primary functions opposing the alleged communistic activities of the Confederación de Trabajadores de América Latina. The American Federation of Labor, the Aprista-dominated Confederación de Trabajadores del Perú, and the socialist faction of the Confederación de Trabajadores de Chile played leading roles in the plans for the Lima conference.

At one period in its existence, the Confederación de Trabajadores de América Latina had as members most of the national labor confederations of Latin America. Consequently, even when conditions at home were unfavorable to political activities, Latin American labor leaders have, through this Confederación, attained considerable recent orientation in dealing with political problems. Perhaps as one result of this orientation, the political importance of Latin American labor appears to have increased considerably in the past ten years.

A study of this importance reveals that trade unionism in most of the countries of Latin America falls into some one of five political categories. First, there are unions in certain countries which lead a more or less normal existence after the fashion of trade unions in the United States, although with a greater interest in and participation in politics. No effort was made in the dissertation to study trade unionism in such a country as the pattern of developments is sufficiently familiar to citizens of the United States. Secondly, there are trade union move-

ments which have come to form the very basis of the state, with labor leaders in important government posts. There is a divergence of opinion over whether Latin American countries in which this situation exists have labor governments or whether, rather, labor is merely a tool, subject to the whims of the state. The latter would appear to be the case.

Thirdly, there are nations which are dependent almost entirely on one industry for their revenue. Often labor organizations in these countries are not financially or numerically strong, but they are nevertheless able to exert considerable influence because even minor unrest in the chief national industry can create political disturbance or even revolutions. Fourthly, there are countries in which labor seems to have no existence independent of the will of the government. When the government sees some benefit to be gained by the encouragement of labor organization, trade unions flourish. When it wishes to reestablish a complete dictatorship, they disappear. When such disappearance occurs, they usually manage to maintain some sort of underground existence, more often than not as an adjunct to an equally underground Communist party.

Lastly, there are a few countries which have on their statute books legislation which to all intents and purposes places labor organizations under the control of the state, but where a fairly strong and independent labor movement has nevertheless managed to develop. For each of the last four types of trade unions cited, a case study of an individual country was included in the dissertation.

As a result of such studies, certain obvious conclusions were reached. It became clear that political activities of trade unions tend more often to lead to a restriction on union liberties than to a genuine growth in union strength. The further conclusion was reached that by these very restrictions, which try to suppress worker dissatisfaction by legislation or force instead of by remedying the economic or political conditions which are its cause, a political and economic climate is created which is favorable to an increase in communist influence and strength in Latin America. Even when such a result is not attained, the very imposition of restrictions or use of violence tends to impinge on the liberties of the genuinely democratic portions of the population and to facilitate the establishment of dictatorships.

The discussion on trade unionism is followed by ten appendices which contain documents pertinent to the subject of the dissertation. Several of them were found in only one library in Washington, in only one copy. Most of them were available only in Spanish and were translated by the author for inclusion in the thesis. As the published proceedings of the Confederación Obrera Panamericana are all available in English, only the constitution of that organization was included. Fairly complete documentation was given for the Confederación Sindical Latino Americana. First, there is the resolution adopted by a group of Latin

American workers meeting in Moscow on December 11, 1927, approving the idea of such a Confederación. Then there is the invitation issued to the workers of Latin American countries and to the proletariat in general to attend a conference in Montevideo in May 1929 to form the confederation. The invitation was extended by a group of workers meeting in Montevideo April 6 to 10, 1928. Finally the constitution of the Confederación as finally established is given.

Rather full documentation was also inserted for the Confederación de Trabajadores de América Latina since it was, at the time the dissertation was written, the only existing general labor confederation in Latin America, and since most of the basic documents concerning it are available only in Spanish. First there was given the text of the convocation issued by the Confederación de Trabajadores de México inviting the workers of the Americas to attend a congress for the purpose of forming such a confederation. Then the speech of Vicente Lombardo Toledano at the inaugural session of the conference of September 1938, at which the Confederación de Trabajadores de América Latina was founded, was given in full as containing the best available summary of the stated objectives of the new organization, other than that given in its constitution. The text of the constitution, as modified at the conference in Cali, Colombia, in December 1944 was next included. At this same Cali conference, a very long set of resolutions was adopted setting forth the plans and policies of the Confederación in both the economic and political fields. They constituted really a postwar program for the organization and therefore seemed also worthy of inclusion. The resolutions of the conference held at San José de Costa Rica in December 1946 were translated also because this conference was the first one to be held after the end of the war, and the resolutions reflected many of the problems and difficulties which the postwar era had already brought to the Confederación.

A document which on the surface seems somewhat extraneous to the subject matter of the thesis formed the final appendix. It was the Bill of Rights for Workers proclaimed by President Juan Domingo Perón of Argentina on February 24, 1947. This Bill is being widely distributed in Latin America and elsewhere in the world by labor attachés attached to Argentine missions abroad. Many of the points it contains are paralleled in the Argentine-sponsored summary of the Declaration of Philadelphia which was adopted at the last session of the General Assembly of the United Nations as an annex to its resolution on trade union rights. It seemed therefore that the Bill might have international labor implications.

In the course of preparing the dissertation, the author read innumerable Spanish and Portuguese articles, pamphlets, and books which are not listed in any periodical or book index known to her. Many of them,

particularly on the Latin American countries not discussed in the thesis. were not utilized in writing the dissertation. With the thought that a list of them, particularly with an indication of their contents, might facilitate the work of other students of the Latin American labor movement, they are nevertheless listed in the bibliography attached to the dissertation, together with pertinent materials in English. This bibliography is arranged by country and then alphabetically by author and is annotated.

ON THE ORIGIN AND RELATIVE ABUNDANCE OF THE ELEMENTS

by RALPH ASHER ALPHER •

I. INTRODUCTION

A theory concerning the origin and relative abundance of the elements is required to explain the following:

1. The existence of naturally radioactive elements demonstrates that at least some of the elements were formed at a finite time in the past. If they had existed for all time, the radioactive species would long since have disappeared, leaving stable disintegration products.

2. A fundamental physical process must have been involved in the formation of the elements, since the correlation observed between the relative abundance of the elements and their atomic weights can hardly be due to chance alone.

Clues to the nature of the process involved have been sought in the actual data on relative abundance. A correlation of large abundance with large binding energies of the particular nuclei has suggested to several investigators that the observed abundances correspond to a thermodynamic equilibrium with respect to binding energy. On the other hand, a correlation of large abundance with small radiative capture cross sections for neutrons, and vice versa, indicates that neutron capture may be the physical process involved. The exposition of a theory in which the origin and relative abundance of the elements is correlated with neutron capture is the principal purpose of the dissertation.

II. DATA ON THE RELATIVE ABUNDANCE OF NUCLEAR SPECIES

The distribution in relative abundance of the elements appears to be quite homogeneous throughout the universe. The measured or computed compositions of the earth, meteorites, and other planets show only a few points of difference with compositions determined for the various stellar configurations and uncondensed material throughout the universe. These differences, namely, the relative scarcity of H and the noble gases on the earth and planets compared to the universe as a whole, can apparently be explained entirely by the mode of formation of the planetary system, and do not have to be explained by any theory of the formation of elements. The recent theory of von Weizsäcker† for the formation of the planetary system makes reasonable the relative scarcity of H and the noble gases in planetary material.

The most complete published tabulation of the relative abundance of

• B.S. 1943, M.S. 1945, The George Washington University; Ph.D. conferred May 26, 1948.
† C. von Weizsäcker, *Zeitschrift für Astrophysik* 22, 319 (1944).

the elements is due to Goldschmidt.* A revision of these data was recently announced by Brown,† who stated that in his new and as yet unpublished table of abundances the major features of Goldschmidt's data are not altered. If one plots the relative abundance of the elements versus atomic weight, the most outstanding feature of the data is seen to be the sharp exponential decrease in abundance with increasing atomic weight up to about 100, and the relative constancy in abundance for the heavier elements.

Close examination of the abundance data indicates that elements of even atomic weight are about ten times as abundant as those of odd atomic weight. Furthermore, nuclei with completed shell structure according to an α -particle model of the nucleus show strong abundance peaks. Finally, one finds strong peaks of abundance for nuclei of the so-called "magic number" variety, i.e., nuclei containing 20 neutrons, 20 protons, 50 neutrons, 50 protons, 82 neutrons, 82 protons, and 120 neutrons. Such nuclei have been suggested as exhibiting a "completed shell" structure in the free particle quantum theory of nuclear structure.

III. EVIDENCE FOR THE FORMATION OF THE ELEMENTS IN THE PRESTELLAR STATE OF THE UNIVERSE

Not only does the existence of spontaneously radioactive elements in nature indicate that the elements were formed at some finite time in the past, but their present relative abundance enables an estimate of the time of their formation. Assume that the stable and radioactive isotopes of a given element were equally abundant when formed. One may compute the time of formation from the well known law of radioactive decay

$$N(t) = N_0 e^{-\lambda t}, \quad (1)$$

where t is taken as the time of formation, $N(t)$ is the present relative abundance, N_0 is the assumed initial relative abundance, and λ is the decay constant. Computations using Eq. (1) give for K^{40} a time of formation about 1.6×10^9 years ago. With U^{235} and U^{238} one finds that the time of formation was about 4.2×10^9 years ago. Sm and Rb both have radioactive isotopes with half-lives of the order 10^{10} to 10^{11} years. The abundances of these isotopes are comparable to those of the stable isotopes of the same elements. This is consistent with a time of formation of the order of 10^9 years ago, for there should have been little diminution of these radioactive isotopes in a time less than one half-life. Since the assumption of equal abundance at the time of formation is certainly a rough approximation, these results are in good

* V. M. Goldschmidt, *Geochemische Verteilungsgesetze der Elemente*. IX. Die Mengenverhältnisse der Elemente und der Atom-Arten. I. Matematisk-Naturvidenskabelig Klasse, 1937, No. 4, Oslo, 1938.

† H. S. Brown, *Bull. Amer. Phys. Soc.* 33, 10 (1948).

agreement. On the other hand, the present expansion rate of the universe indicates its age to be about 2×10^9 years, so the elements must have been formed quite early.

The sources of energy in stars and the general structure of stellar interiors are believed now to be reasonably well understood. Bethe* has shown that, aside from the nuclear transformations responsible for energy production in stars, no nuclear processes in which elements heavier than He are built up can go on. Since these thermonuclear reactions can well have supported the energy production in stars at present rates for times comparable to the age of the universe, the stars must have been formed with essentially their present composition. It appears, therefore, that one must explain the formation of the elements in an early prestellar state of the universe.

IV. THE PRESTELLAR STATE OF THE EXPANDING UNIVERSE

Some information concerning the prestellar state of the universe, including in particular the densities and temperatures then obtaining, can be derived from astronomical data interpreted with the aid of relativistic cosmology.

Any cosmological model which one may construct must be consistent with the following observed features of the universe:†

1. The universe appears to exhibit large-scale homogeneity and isotropy.
2. The mean density of matter in the universe, distributed uniformly, is of the order of 10^{-26} gm/cm³.
3. There is a uniform expansion of the reference frame. All extragalactic nebulae have an apparent recession velocity, revealed by a Doppler red-shift, which increases linearly with their distance from the observer. This recession may be expressed by

$$v = kr, \quad (2)$$

where v is the recession velocity, in cm/sec, r is the distance to the nebula in cm, and k , Hubble's constant, is 1.8×10^{-17} sec⁻¹. The reciprocal of Hubble's constant is 1.8×10^9 years, the estimated age of the universe.

A satisfactory cosmological model‡ may be constructed with the following line element, which is in relativistic units:

$$ds^2 = -\frac{g(t)}{c^2} (dr^2 + r^2 d\theta^2 + r^2 \sin^2\theta d\phi^2) + dt^2. \quad (3)$$

* H. A. Bethe, *Phys. Rev.* 55, 434 (1939).

† E. Hubble, *The Observational Approach to Cosmology* (Clarendon Press, 1937).

‡ R. C. Tolman, *Relativity, Thermodynamics, and Cosmology* (Clarendon Press, 1934), p. 170.

In Eq. (3), $g(t)$ is an undetermined function of time t , r , θ , and ϕ are the usual spherical polar coordinates, and $R = R_0 e^{g(t)}$ is interpreted as the radius of curvature of the space. This line element exhibits spherical symmetry and is time dependent, and therefore meets the requirements of isotropy and a uniform expansion (or contraction) rate. Homogeneity is incorporated in the model by considering the matter in the universe to be a perfect fluid. The components of the energy-momentum tensor for such a fluid are

$$T^{\mu\nu} = (P_0 + \rho_0) \frac{dx^\mu}{ds} \frac{dx^\nu}{ds} - P_0 g^{\mu\nu},$$

where P_0 and ρ_0 are proper pressure and density. It can be shown* that Eqs. (3) and (4), together with the Einstein equation relating the distribution of matter and the curvature of space, lead to the following relationship between the universal density ρ , the expansion rate, and time

$$\frac{d}{dt} \left(\frac{1}{l_0} \right) = + \sqrt{\frac{8\pi G}{3} \rho \frac{l^2}{l_0^2} - \frac{c^2}{R_0^2}}.$$

This equation is in c.g.s. units. The quantity $\frac{d}{dt} \left(\frac{1}{l_0} \right)$ is exactly the expansion rate, where l is any linear dimension; l_0 and R_0 are constants to be determined from astronomical data. G is the constant of gravitation and c the velocity of light. If we define $A = 8\pi G/3$, $B = -c^2 l_0^2 / R_0^2$ and let $\rho = 1/l^3$, then Eq. (5) may be integrated as

$$t = \frac{1}{\sqrt{B}} \left[\sqrt{\frac{A}{B\rho} - \frac{1}{\rho} + \frac{A}{B}} \sinh^{-1} \sqrt{\frac{B\rho - 1}{A\rho}} \right],$$

where we have taken $l = 0$ at time $t = 0$. If one takes $l_0 = 10^{27}$ cm, i.e., the side of a cube containing a gram of matter at present, then Eq. (5) gives $R_0 = 1.67 \times 10^{27} \sqrt{-1}$ cm for the present radius of curvature. Using these values for l_0 and R_0 , we can evaluate A and B in Eq. (6). It can be shown by expansion of the separate terms in Eq. (6) that approximately,

$$t = 8.9 \times 10^3 \rho^{-\frac{1}{3}} - 1.54 \times 10^{-5} \rho^{-\frac{4}{3}} + \dots$$

For $\rho > 10^{-12}$ gm/cm³, one may write with sufficient accuracy

$$t = 8.9 \times 10^3 \rho^{-\frac{1}{3}}.$$

The cosmological model to which the above discussion applies is an open

* G. Gamow, Phys. Rev. 70, 573 (1946).

model, expanding monotonically to infinity from a point singularity of infinite density.

The general laws of relativistic mechanics indicate this expansion to be adiabatic, so that

$$\rho = \text{const.} \times T^{\frac{3}{2}} \text{ gm/cm}^3 \quad (9)$$

gives the dependence of temperature on the density of matter, and, through Eq. (8), on time. The adiabatic constant of the primordial matter may be taken as 5.3. Determination of the constant of proportionality in Eq. (6) requires knowledge of the temperature corresponding to some particular epoch of the expansion. There appears to be no way of finding such a temperature other than indirectly as a result of a successful theory of the formation of the elements.

V. THE EQUILIBRIUM THEORY OF THE RELATIVE ABUNDANCE OF THE ELEMENTS

The correlation of large relative abundance for certain elements with large binding energies for these elements has suggested to various workers that the present relative abundance corresponds to a thermodynamic equilibrium. This equilibrium is with respect to binding energies, at a high temperature and density in the prestellar stage of the universe. Recent attempts to improve the equilibrium theory have introduced certain stellar models whose existence in the early state of the universe is difficult to justify. Calculations of thermodynamic equilibrium have been made by Sterne,* von Weizsacker,† Chandrasekhar and Henrich,‡ Wataghin and de Toledo,§ van Albada,|| and by Klein, Beskow and Treffenberg.¶,#. In their calculations of a thermodynamic equilibrium theory, Klein, Beskow and Treffenberg consider the nucleus as a member of a Gibbs grand canonical ensemble, with neutrons and protons as independent constituents.

According to this approach, it can be shown that the concentration C per unit volume of nuclei of mass m , containing N neutrons and Z protons, is

$$C(N, Z) = (2s + 1) \left(\frac{2\pi mkT}{h^2} \right)^{\frac{3}{2}} e^{\frac{\mu N + \lambda Z - E}{kT}} \quad (10)$$

* T. E. Sterne, Monthly Notices of the Royal Astronomical Society 73, 756, 767, 770 (1953).

† C. von Weizsacker, Physik. Zeita. 30, 633 (1938).

‡ S. Chandrasekhar and L. R. Henrich, Astrophys. J. 96, 288 (1942).

§ G. Wataghin and P. S. de Toledo, Phys. Rev. 73, 79 (1948).

|| G. B. van Albada, Bulletin of the Astronomical Institute of the Netherlands, Vol. X, No. 174, Sept. 12, 1946. See also G. B. van Albada, Astrophys. J. 100, 192 (1947).

¶ O. Klein, G. Beskow, and L. Treffenberg, Arkiv för Matematik, Astronomi och Fysik, Vol. 33A, No. 1 (1946).

G. Beskow and L. Treffenberg, Arkiv för Matematik, Astronomi och Fysik, Pt. I, Vol. 34A, No. 13 (1947); Pt. II, Vol. 34A, No. 17 (1947).

The factor $(2s + 1)$ represents the multiplicity of the state of energy E , where s is the spin quantum number. The quantities μ and λ are the Gibbs potentials for neutrons and protons, respectively, which are interpreted as the additional binding energy obtained in the nucleus by the inclusion of a neutron or proton. The energy E should include the binding energy of the nucleus, the mass energy of the constituent neutrons and protons, and any excitation energy the nucleus may possess. However, the mass energy of the nucleons is conveniently absorbed into the potentials μ and λ . If one writes the atomic weight $A = N + Z$, the isotopic number $\Delta = N - Z$, and combines μ and λ in $\alpha = (\mu + \lambda)/2$, $\beta = (\mu - \lambda)/2$, then, according to Eq. (10), the logarithm of relative abundance of two nuclear species is given by

$$\log\left(\frac{C'}{C}\right) = \log\left(\frac{2s'+1}{2s+1}\right) + \frac{3}{2} \log\left(\frac{m'}{m}\right) + \frac{\alpha}{kT}(A' - A) + \quad (11)$$

$$\frac{\beta}{kT}(\Delta' - \Delta) - \frac{1}{kT}(E' - E).$$

Klein, Beskow and Treffenberg determined the best fit of Eq. (11) to the observational data as corresponding to $kT = 1$ Mev ($T = 1.16 \times 10^{10}$ °K), $\alpha = -9.6$ Mev and $\beta = 2$ Mev. The theory fits the abundance data only for the light elements.

The essential disagreement of this kind of theory is evident from Eq. (11). The first two terms of Eq. (11) are small compared to the remaining three. In these three terms, both the isotopic number Δ , and the binding energies E are, to a first approximation, linear functions of atomic weight A .^{*} Hence Eq. (11) is approximately of the form

$$\log\left(\frac{C'}{C}\right) \cong \text{const.} \times (A' - A), \quad (12)$$

whereas the observed relative abundance shows a sharp exponential decrease only up to atomic weight 100 and then relative constancy for higher atomic weights. One can not hope to represent such data by a theory yielding a single line for all atomic weights.

Various attempts to repair this principal difficulty have been made. In some of these it is suggested that the light and heavy elements were formed in two distinctly different epochs, under different temperatures and densities. Others have suggested stellar models in which light and heavy elements could be formed at different depths within the star, where the necessarily different physical conditions could be found simultaneously. Both procedures are difficult to justify physically.

The apparent failure of an equilibrium theory to correctly explain the

^{*} G. Gamow, *Atomic Nuclei and Nuclear Transformations* (Clarendon Press, 1917).

relative abundance of the elements leads to consideration of the correlation of radiative capture cross sections for neutrons with the observed details of the abundance data.

VI. THE NEUTRON-CAPTURE THEORY OF THE FORMATION AND RELATIVE ABUNDANCE OF THE ELEMENTS

Gamow* has indicated that because of the rapid variation of physical conditions during the early stages of the expanding universe, the elements must have been formed by some rapid continuous building-up process involving successive neutron captures. It is suggested that the sequence of events prior to and during the period of element formation was the following. The expansion of the universe began with a gas of neutrons as the primordial material. When the density had decreased sufficiently in the expansion, the radioactive decay of neutrons into protons began. However, mean thermal energies per particle still exceeded the binding energy per particle in nuclei, so no nuclei could be formed. Later in the expansion, the temperature had decreased sufficiently so that the capture of neutrons by protons could begin, forming deuterons. Successive neutron captures led to the formation of heavier nuclei. Because of the exponential decrease with time of the number of neutrons due to their decay, the process must have terminated in a time of the order of magnitude of the neutron half-life.

In general, the rate of increase of the concentration of nuclei of atomic weight A was proportional to the difference between the number of nuclei of atomic weight $(A - 1)$ which captured neutrons and became nuclei of atomic weight A , and the number of nuclei of atomic weight A which in turn captured neutrons and became nuclei of atomic weight $(A + 1)$. The differential equations for such a process are

$$\frac{dn_A}{dt} = f(t) [\lambda_{A-1} n_{A-1} - \lambda_A n_A], \quad A = 1, 2, 3, \dots, 238, \quad (13)$$

where $f(t)$ is a factor to account for the general density decrease due to the expansion of the universe, and λ_A is the probability per second that a nucleus of atomic weight A will capture a neutron. The process was arrested before saturation by the density decrease in the expansion, and by the decrease in neutron concentration. The nuclei formed in the process must have exhibited greater neutron excesses than the known Fermi-elements, and therefore must have undergone successive β -disintegrations into stable forms. Equations of the form (13) are familiar in radioactivity, and their solutions for several sets of initial conditions are given by Rutherford, Chadwick, and Ellis.†

* G. Gamow, *Phys. Rev.* 70, 573 (1946).

† E. Rutherford, J. Chadwick, and C. D. Ellis, *Radiations from Radioactive Substances* (Cambridge University Press, 1930), p. 8.

There is good evidence for suggesting that the elements were formed by a neutron-capture process. We have already mentioned the fact that nuclei of even atomic weight were more abundant than those of odd atomic weight, that nuclei with completed shells according to the α -particle model of nuclear structure were more abundant than others without such shells, and finally, that there were large abundance peaks for elements of the "magic number" variety. In all these cases the nuclei have larger binding energies corresponding to a saturated internal structure. Hence, the next neutron to enter such nuclei will be less strongly bound than would otherwise be the case, and such nuclei should show smaller capture cross sections. This conclusion is supported by the work of Feenberg* concerning the even-odd variation of cross section, and by Wigner and Way,† who report definitely smaller cross sections for the abundant "magic number" nuclei. That abundant nuclei should exhibit small capture cross sections is consistent with Eq. (1), since such nuclei would on the one hand resist change to a higher atomic weight, and, on the other hand, would be more likely to be formed from neighboring lighter nuclei of smaller binding energy per particle because of the larger energies associated with a completed shell structure.

An important piece of evidence is in the recent work of Hughes,‡ who has determined capture cross sections of many of the elements for 1 Mev neutrons. These cross sections increase exponentially with atomic weight up to about 100, and are essentially constant for higher atomic weights. This is quite consistent with the observed general trend of abundances. Hughes' data, together with essentially all other published capture cross section data, indicate that one may approximately represent the relationship between capture cross sections, atomic weight, and neutron energy, by the formulae

$$\sigma\sqrt{E} = 1.3 \times 10^{-28} \text{ cm}^2\sqrt{\text{ergs}}, \text{ for } A > 100, \quad (14)$$

and

$$\sigma\sqrt{E} = 1.3 \times 10^{-30} \times 10^{0.03A-1.00} \text{ cm}^2\sqrt{\text{ergs}}, \text{ for } A < 100.$$

These formulae, which contain the well known $1/v$ law for neutron cross sections, ignore resonances for the lower energies. Since the abundance data show no anomalies for elements known to have large

* E. Feenberg, *Rev. Mod. Phys.* 19, 239 (1947).

† E. P. Wigner and K. Way, private communication.

‡ D. J. Hughes, *Phys. Rev.* 70, 106A (1946). See also D. J. Hughes, Manhattan District
Declassified Document, MDDC-27, April 29, 1946.

thermal resonances, the temperature obtaining during the neutron-capture process must have been well above the resonance regions. Equations (14) contain the implicit assumption that capture cross sections are independent of the possible β -instability of nuclei, and depend only on atomic weight. For purposes of preliminary calculations, the detailed cross section data for the elements are not considered.

If we assume the primordial matter in which the process went on was an ideal gas, then one may show that the number of neutrons captured by nuclei of atomic weight j per unit volume per second is given by

$$\frac{4n_1 n_j}{\sqrt{2\pi m_1} (kT)^{3/2}} \sqrt{\frac{1+j}{j}} \int_0^{\infty} \frac{e^{-E/kT}}{\sigma_{1,j}} E dE, \quad (15)$$

where n_1 is the number of neutrons per unit volume, n_j is the number of nuclei of atomic weight j , $\sigma_{1,j}$ is the radiative capture cross section for these nuclei, and m_1 is the mass of the neutron.

The factor in Eqs. (15) multiplying n_j is evidently λ_j as used in Eqs. (13). Substituting Eqs. (14) in Eqs. (15) and performing the indicated integrations, we obtain for the probability per second that a nucleus of atomic weight j will capture a neutron the following:

$$\lambda_j = 1.4 \times 10^{-16} \sqrt{\frac{1+j}{j}} n_1 \text{ sec}^{-1}, \text{ for } j > 100, \quad (16)$$

and

$$\lambda_j = 1.4 \times 10^{-18} \times 10^{0.03j - 1.00} \sqrt{\frac{1+j}{j}} n_1 \text{ sec}^{-1}, \text{ for } j < 100.$$

In carrying out the integration, one finds that temperature cancels out. This means that a temperature need not be assigned for the process. However, the temperature during the building-up process must have been well above resonance energies, say 10^8 ev, and well below the binding energy per particle in nuclei, say 10 Mev. A temperature of the order of 10^8 ev would appear to be the correct one; this is in the region of temperatures for which the assumed variation of cross section with atomic weight has been directly verified.

If we absorb the factor $f(t)$ into the terms $\lambda_j n_j$ of Eqs. (13), assume that the supply of neutrons is not appreciably changed during the course of the process (this is in essential agreement with the extremely large abundance of H in the universe), and, finally, assume that at $t = 0$, $n_2 = n_3 = \dots = n_j = 0$, then solutions of Eqs. (13) are of the form

$$\frac{n_1}{n_i} = \frac{\lambda_i}{\lambda_1} \left[1 - \lambda_2 \lambda_3 \lambda_4 \dots \lambda_1 \left\{ \frac{e^{-\lambda_2 t}}{\lambda_2 (\lambda_3 - \lambda_2) (\lambda_4 - \lambda_2) \dots (\lambda_1 - \lambda_2)} \right. \right. \\ \left. \left. + \frac{e^{-\lambda_3 t}}{\lambda_3 (\lambda_2 - \lambda_3) (\lambda_4 - \lambda_3) \dots (\lambda_1 - \lambda_3)} + \dots \right. \right. \\ \left. \left. + \frac{e^{-\lambda_1 t}}{\lambda_1 (\lambda_2 - \lambda_1) (\lambda_3 - \lambda_1) \dots (\lambda_{i-1} - \lambda_1)} \right\} \right]. \quad (17)$$

In Eqs. (17), no two λ 's may be equal. If all λ 's are equal, and if the same initial conditions hold, the solutions are of the form

$$\frac{n_1}{n_i} = \frac{n_{i-1}}{n_1} - \frac{(\lambda t)^{i-2}}{(i-2)!} e^{-\lambda t}. \quad (18)$$

It should be noted in Eqs. (17) that any multiplicative factor common to all the λ 's cancels out completely in the coefficients and is retained only in the exponential factors. Thus, one may cancel the factor n_1 contained in all λ 's from the coefficients in Eqs. (17), and use the combination $n_1 t$ which appears in every exponential factor as the independent variable.

Equations (17) are essentially algebraic in form, whereas the abundance data fall off exponentially with atomic weight up to 100. It was found that evaluation of Eqs. (17) could not be carried out for atomic weights higher than about 4 or 5 because the solutions were of the form of very small differences between very large numbers. The computational inaccuracy of such forms was aggravated with increasing atomic weight. To circumvent this difficulty, only selected n_i were calculated, these n_i being separated by large groups of atomic weights. Thus, Eqs. (13) were replaced by the following equations

$$\frac{d\bar{n}_j}{dt} = \bar{\lambda}_{j-1} \bar{n}_{j-1} - \bar{\lambda}_j \bar{n}_j, \quad j=2, 3, \dots, 13, \quad (19)$$

where groups of 20 in atomic weight were chosen for convenience. In Eqs. (19) $\bar{\lambda}_j$ represents $1/20$ th of the average λ for atomic weights 1 through 20, $\bar{\lambda}_j$ for atomic weights 21 through 40, . . . , n_i is a representative element in the group of atomic weights 1 through 20, n_i reached by 20 successive neutron captures from n_1 , represents atomic weights 21 through 40, . . . , etc. Even with these approximations it was found necessary to resort to numerical integration to carry through solutions

to \bar{n}_n (atomic weights 221 to 240). The set of solutions corresponding to $n_1 t = 0.81 \times 10^{18}$ sec/cm³ was found to give a good representation of the observed abundance data. The fit to the data is sensitive to the choice of $n_1 t$; for example, sets of solutions corresponding to $n_1 t = 0.51 \times 10^{18}$ sec/cm³ and $n_1 t = 1.3 \times 10^{18}$ sec/cm³ lie well below and well above the observed abundances. Saturation of the process is essentially reached for an $n_1 t$ of the order of $10^{18} - 10^{19}$.

It appears that a neutron-capture process was the basic mechanism whereby the elements were formed and their relative abundances determined.

II. INTERPRETATION OF THE RESULTS OF THE NEUTRON-CAPTURE THEORY

We have found that the value of $n_1 t = 0.81 \times 10^{18}$ sec/cm³ appears to give the best fit of the computed to observed relative abundance plot. The quantity $n_1 t$ may be interpreted as the integral of ρdt during the process of element formation. If the density is taken to be due to neutrons only, and the dependence of density on time given by Eq. (8) is used, we may write

$$\int_{t_0}^{t_1} \rho dt = \int_{t_0}^{t_1} \frac{(8.9 \times 10^2)^2}{t^2} dt = 1.66 \times 10^{-24} \times 0.81 \times 10^{18} \quad (20)$$

$$= 1.3 \times 10^{-6} \text{ gm}^2 \text{ sec/cm}^3.$$

This yields

$$\frac{1}{t_0} - \frac{1}{t_1} = 1.6 \times 10^{-12} \text{ sec}^{-1}. \quad (21)$$

If we assume that the process took a time of the order of a neutron half-life, then Eq. (21) gives

$$t_0 \cong 10^7 \text{ seconds} \quad (22)$$

as the starting time of the process. Equation (8) gives for the density of matter at this time

$$\rho_0 \cong 10^{-8} \text{ gm/cm}^3. \quad (23)$$

Values of t_0 and ρ_0 thus obtained are only order of magnitude quantities. However, it may be noted that they lead to a contradiction with the qualitative description of the process. According to Eq. (8), the density should have dropped shortly after the start of the expansion to values such that neutron β -decay could go on. As a result of this, by 10^7 seconds after the start of neutron decay the neutron concentration would have been much too low to permit a neutron-capture process to go on. As has been pointed out, the temperature during the capture

process must have been of the order of 10^5 ev $\cong 10^9$ °K. The density of radiation at such a temperature is of the order of 1 gm/cm³, many orders of magnitude higher than the initial density given by Eq. (23). It is suggested, therefore, that radiation controlled the initial stages of the universal expansion, and that the cosmological model leading to Eq. (8) can not be correct. The initial density and starting time for the neutron-capture process must therefore be reinterpreted in terms of a different cosmological model.

We have seen that the temperature during the neutron-capture process must have been of the order of 10^5 ev. The universal expansion should have been adiabatic, in terms of any reasonable cosmological model. Equation (9) then indicates that the change in temperature during the process due to the expansion was small, and temperatures were still of the order of 10^5 ev when the process ended. We may conclude that whereas temperature was the controlling factor for the start of the process, temperature decrease in the expansion did not terminate the process.

The relative abundances of nuclei formed by the neutron-capture process must have undergone certain modifications during and after the process. For example, the nuclei formed must have had a large neutron excess, and, therefore, must have undergone successive β -disintegrations into a stable state. One would expect that the β -disintegrations stopped when the stable isobaric form of lowest charge was reached. This is suggested by the observed abundance data, for one finds that when there are isobars, those of lowest charge are predominantly abundant.*

According to the theory presented, there is no restriction against formation of nuclei heavier than the uranic elements. However, the process of nuclear fission provides the necessary restriction. Fission becomes more probable with increasing atomic weight, so that any transuranic elements formed would hardly have survived a 10^5 ev neutron flux. One should therefore find material which arrived at the "tail" of the abundance plot redistributed at lower atomic weights according to the fission yield of these elements. Published fission yield data show remarkably little dependence on the atomic weight of the parent element. Yield curves show broad peaks at atomic weights of the order of 95 and 139. These atomic weights are approximately coincident with the large abundance peaks previously ascribed to the "magic number" nuclei of small cross section, so that fission products "landing" in these regions would tend to accumulate. It is possible therefore that the peaks are the superimposed abundances from neutron-capture and from nuclear fission.

The scarcity of H^2 , H^3 , and all the isotopes of Li, Be, and B in ter-

* This has also been pointed out by F. C. Frank, *Proc. Phys. Soc. Lond.* 60, 812 (1948).

restrial material as well as in the universe, together with the theory of von Weizsäcker for the origin of the planetary system, indicates these elements were scarce before present stellar configurations were formed. Because of the adiabatic expansion, temperatures were still quite high after the neutron-capture process ceased, high enough in fact to support thermonuclear reactions of these elements with protons at a very accelerated rate. It is suggested that the universe went through a stage of element formation to a stage when only thermonuclear reactions were possible, and, with further expansion, to a stage when no nuclear reactions at all went on. The growth of stellar configurations somehow began after this stage.

The theory presented for the formation and relative abundance of the elements is obviously in preliminary form. To effect significant improvement in the theory requires that the β -decay of neutrons and a correct cosmological model be introduced into the mathematical formulation of the process. In addition, a more detailed knowledge is required of the capture cross sections of the elements, particularly the light elements.

STUDY ON TOXINS AND ANTIGENS OF *S. DYSENTERIAE*

by DANIEL ALVIN BOROFF *

Two types of toxin have been described by various investigators working with *S. dysenteriae*. The role of these substances in protection and pathogenesis have been debated since 1920 when Olitsky and Kligler first described the separation of these two toxins. Their claim was that one was a neurotoxin capable of inducing paralysis and the other an enterotoxin having affinity for the gastro-intestinal tract.

Boivin and Mesrobian further extended these studies and claimed that the neurotoxin was a thermolabile exotoxin and could be neutralized by a specific antitoxin. The enterotoxin was found by these investigators to be a thermostable polypeptide-polysaccharide-lipoid complex associated with the somatic antigen of *S. dysenteriae*. Morgan and Partridge in 1937 characterized this complex showing the polypeptide to be a protein and the polysaccharide to be the specific hapten of the organism.

Dubos (1946), however, could not demonstrate the presence of an exotoxin in the filtrate from young cultures of these organisms. He, therefore, suggested that the neurotoxin is liberated only upon the autolysis of the organisms.

Not only is the existence of the exotoxin in doubt, but the existence of two toxins has been questioned by Waaler, who believes that both neurotoxic and enterotoxic effects may be demonstrated in laboratory animals by varying the dose of injected autolysates of *S. dysenteriae*. On the other hand, Steaben in 1943 suggested the possibility of the presence of three distinct toxins, two in the somatic antigen and the third, the neurotoxin. In addition, she claimed that injection of somatic antigen affords antibacterial protection while the antitoxin protected only against neurotoxin. To add to the confusion, both Steaben and Dubos observed that antibodies induced by injection of these two substances cross-reacted strongly.

In view of the existing uncertainty, it was felt that a systematic attempt should be made to determine the number of dominant antigens present in *Shiga*, as well as the nature of toxin or toxins produced by this organism. This paper concerns itself with the study of toxins and antigens of *S. dysenteriae*.

The strains of organisms used in investigation were those reported in the works of the above mentioned investigators. Rough and smooth variants of strain 2308 *S. dysenteriae* were obtained from Dr. Dubos; Bucharest rough and smooth variant used by Boivin from N. I. H.; and strain 624 from Dr. Morgan. Other strains of *S. dysenteriae* were

* B.S. 1934, College of the City of New York; A.M. 1936, Columbia University; M.S. 1938, DeLamar Institute of Public Health, Columbia University; Ph.D. conferred May 26, 1948.

smooth 52 from the University of Pennsylvania, and S14-4 from the Army Medical School.

The organisms were grown either on tryptone broth or tryptone agar to which were added 0.1 per cent NaCl and 0.1 per cent glucose.

The neurotoxin was prepared by methods suggested by either Boivin or Dubos. The organisms were grown for 18 to 24 hours and separated by centrifugation. The sediment was washed 3 times in cold saline solution and resuspended in distilled water and covered with toluol. The autolysis was allowed to take place at 37° C. for 5 days. The resulting autolysate was treated with trichloroacetic or hydrochloric acid. It was observed that after a pH of 4.0 was reached with either acid, no more precipitation occurred.

The precipitates were collected, washed, and redissolved in distilled water. The salts were dialyzed out and the dialysate dried by the lyophile process. This dry material was the partially purified toxin of *S. dysenteriae*.

In the work with whole organisms, the cultures were grown as previously mentioned. The organisms were washed and dried from the frozen state.

Two additional methods were employed to obtain the toxin material from our strains.

A suspension of washed organisms was treated in a magnetostriction oscillator at 9000 cycles for 90 minutes. Upon centrifugation of the resultant lysate a clear straw-colored solution was obtained which upon acidification with either 2 per cent trichloroacetic acid or N/1 hydrochloric acid to pH 4.0, yielded a white flocculant precipitate. After washing and dialysis, this precipitate was also dried by lyophilization.

Electrophoretic analysis revealed that this substance appeared to be composed of one slow and one fast component. The slow component, when isolated by electrophoretic means, comprised about 70 per cent of the substance and seemed to contain all of the demonstrable protein as well as all the toxicity.

The somatic antigen was obtained according to Morgan's method. Dried organisms were extracted with 10 times the volume of diethylene glycol, the solvent dialyzed out, and the material precipitated out with 66 per cent cold acetone.

All the above substances were tested for their toxicity in mice. The result obtained showed that all preparations were of the same order of toxicity. Intraperitoneal LD₅₀ for mice was between 30 and 60 micrograms. These substances were much more toxic for rabbits. Ten micrograms was sufficient to kill a 5 lb. rabbit in 24 to 48 hours.

However, all these substances from smooth variant, when given to rabbits in sublethal doses, induced the formation of agglutinins and

precipitins which cross-reacted practically to the same titer with all the above antigens.

The fractions from rough organisms as well as the whole organisms produced no agglutinins or precipitins.

Absorption of these antisera with either whole organism or any of the fractions obtained by various methods removed not only the precipitins to this substance but also the agglutinins to the whole organism. Rabbit protection experiments indicated that the animals immunized with any one of the preparations were protected from 100 LD₅₀ of any other preparation with the exception of somatic antigen immunized rabbits which were not protected.

Passive protection of mice with immune sera of these rabbits seems to point to the same conclusion.

The chemical analysis of S and R autolysates yielded very suggestive data. Identically acting toxins could be obtained from either of the autolysates by acid precipitation with trichloroacetic acid, which is Boivin's method, or by hydrochloric acid, which is Dubos' procedure. In both instances a white flocculant precipitate separates out when pH 4 is reached. Further acidification yielded no more precipitate. The isolated substances were toxic to the same degree for mice, and induced identical symptoms including diarrhea, weakness, desire of animals to lie on one side, tetanic spasms, paresis, and occasional paralysis of either the front or the hind legs.

On further analysis of the acid precipitates it was established that the toxins contained a protein of low molecular weight. This protein did not coagulate on heating, nor did it dissolve in distilled water. The tryptophane content of either toxin was 2 per cent. It was also found that, while nitrogen content per mg of dry weight of the respective toxins was the same, the ratio of reducing sugar to nitrogen was 0.468 for the smooth and 0.175 for the rough toxin.

Immunization of rabbits with toxin from smooth variant of *S. dysenteriae* induced the formation of agglutinins against whole organisms, thus indicating that this toxin contained some part of somatic antigen.

De Kruif (1921) and Arkwright (1921) have shown that dissociation from smooth to rough is often accompanied by the loss of the ability of the organisms to synthesize a specific polysaccharide. Available techniques were inadequate to estimate what proportion of reducing sugar constitutes the specific polysaccharide of *S. dysenteriae*; nevertheless, it is obvious that the rough variant is poorer in carbohydrates than the smooth variant. But it has been maintained that this polysaccharide was only observed in the somatic antigen complex which is claimed to be quite distinct in its toxic and antigenic properties from the neurotoxin.

Our absorption experiments have shown that antiserum against the crude autolysate absorbed with whole organisms was completely ex-

hausted, and that whole organism antisera was equally free from antibodies when absorbed with purified toxin. Thus it would seem that the specific antibodies for neurotoxin and somatic antigen are the same. The corollary to this is that the toxin is either in part or in whole equal to the somatic antigen.

Dubos (1946) mentions that the neurotoxin he isolated contained a basic protein. Morgan (1942) on the other hand, claims that the protein moiety of the somatic antigen complex is also basic and that when this protein is freed from the specific polysaccharide, it (the protein) loses its antigenicity. This fact adds to the evidence of the similarity of substances isolated by Dubos and called Neurotoxin and diethylene glycol extracts of Morgan which he called Somatic Antigen. The apparent differences observed by various investigators in the toxic effects may perhaps be ascribed to the method of isolation of the toxic substance. Apparently the bond between the protein and the polysaccharide is such that chemical treatment may effect a split of various amounts of either one or the other component.

We cannot yet adequately explain the protection afforded by immunization with rough variant or its fractions. However, this protection need not be ascribed to the presence of antitoxin. The phenomenon of protection in absence of demonstrable circulating antibody has been observed by immunization with an organism devoid of exotoxin and, therefore, not capable of eliciting the formation of antitoxin. Dingle, Fothergill, and Chandler in 1937 stated that guinea pigs immunized with *H. influenzae* showed no circulating antibodies, although they were fully protected. On further consideration, this protection cannot be ascribed to the antitoxin because the rabbits immunized with rough organisms or their fractions were equally protected against smooth organisms presumably possessing toxic somatic antigen.

Summarizing accumulated evidence we would like to offer an alternative to the current theory of the phenomenon of toxicity and antigenicity of *S. dysenteriae*. We suggest that it is wholly possible that the somatic antigen and the neurotoxin of *S. dysenteriae* are one and the same substance, and that the toxicity of the complex resides in the protein moiety while the polysaccharide part determines both the antigenicity and specificity of the antigen.

This theory accounts for the phenomenon of complete absorption of anti-autolysate serum with whole organisms and for the non-antigenicity of the autolysate from the rough variant, as well as for the protection afforded by immunization with either whole organisms or any of the derived fractions of *S. dysenteriae* against any of the above preparations.

ARTHUR SPIETHOFF'S CONTRIBUTION TO BUSINESS CYCLE THEORY

by HELEN OSTERRIETH NICOL •

INTRODUCTION

The purpose of the dissertation is to present the business cycle theories of Arthur Spiethoff, German economist, to analyze and interpret them, to trace them to his intellectual roots, and to compare them with those of his contemporaries. This throws into relief the nature of his own contribution and his influence on the literature of economic fluctuations.

Spiethoff was one of the first who attempted to analyze economic fluctuations in terms of a number of dynamic forces operating within the economy, and therefore to explain the evolution from one cycle phase to another in terms of both cumulative factors and turning points. Spiethoff combined historical, factual analysis with a novel conceptual apparatus. His particular achievement is that of being able to assemble, survey, and evaluate a mass of statistical data and yet develop an original theory which is plausible and applicable. Although he is primarily concerned with the industrial cycles of the nineteenth century up to the First World War, his theory still has relevance today in helping to clarify some basic issues of postwar economic dislocation.

SPIETHOFF'S CONTRIBUTION TO METHODOLOGY

The three fundamental elements in Spiethoff's intellectual make-up are the teachings of the Younger Historical School, the influence which Marx and the Marxian School had on him, and the abstract-analytical method of classical and marginal economics. The influence of the Younger Historical School, especially Schmoller and Wagner, led him to his historical-statistical studies; the influence of Marxist thought colored his theory of overproduction; and the influence of classicism and marginalism led him to adopt a theoretical approach.

This approach is an original contribution to methodology. Through *anschauliche Theorie* Spiethoff blends abstract theory with a description of the facts. The result of this fusion is a theory of development that describes the historical data it selects. This method has the advantage that it explains reality and permits forecasting from the reality. Its disadvantage is that it is extremely difficult to combine pure logic with the given discipline of historical facts in a rigorous fashion, because judgment enters as a balancing criterion. Occasionally, therefore, Spiethoff finds it necessary to abandon his theoretical approach and to rely on his intuition about the facts. Those occasions constitute "flaws"

• A.B. 1926, Victoria-Luise Oberreale Studien-Anstalt, Berlin, Germany; M.S. 1942, Columbia University; Ph.D. conferred May 26, 1948.

in his analysis, but by what he lost in elegance, the students of his analysis gained from his insight and understanding of economic processes.

The link between the method of *anschauliche Theorie* and a theory of economic fluctuations is forced by the *Wirtschaftsstil*, a model of economic life which reflects the characteristics of a given historical market form. Each market form requires to be explained through a variation of general economic theory, and each variation has three aspects: pure—in order to relate the ideal model to the general theory; *anschaulich*—in order to recreate reality; and historical—in order to relate it to its own historical setting. Spiethoff's method of analyzing business cycles comprises all three, although his emphasis is on *anschauliche Theorie*. This approach transcends the monistic methods used by other business cycle theorists and is an important contribution to business cycle methodology.

SPIETHOFF'S MODEL OF THE CYCLE

Spiethoff's historical studies led him to believe that economic life is characterized by two kinds of fluctuations: the span, a long wave which lasts from 21 to 31 years (approximately half the length of a Kondratieff upswing or downswing); and a shorter cycle which makes a complete revolution, lasting from 7 to 11 years. This is the intermediate (Juglar) business cycle with which his analysis is mainly concerned.

Spiethoff considers these cycles typical of industrial development and thinks that the contours they trace have general validity for capitalistic organization. Hence the justification for a theoretical cycle model, patterned from actual historical data and yet abstracting from these data to a "model cycle" with ideal phases and subphases, displaying idealized movements of upswing, downswing, and crisis.

This model cycle is in several respects not integrated with his description and casual explanation of the cycle (briefly his "theory" as distinguished from his "model"). Spiethoff attempts to reduce a constellation of highly complex interrelationships to manageable proportions, and therefore does not escape oversimplification and hence some distortion of his underlying theories.

SPIETHOFF'S THEORY OF THE CYCLE

Spiethoff's description of the mechanism of expansion and contraction, in its careful attempt to evaluate all economic forces at work in the different phases and subphases of the cycle, draws connections and relations from the facts and establishes finally a casual explanation.

The upswing refers to a period of rising profits, investment, consumption of producers' goods (iron and coal), production, and prices. The period of slow growth is the Second Rise and that of maximum development, Full Prosperity. The last phase of the upswing is Capital

Shortage. The upswing is inevitably terminated by overproduction and may or may not be accompanied by a crisis.

The downswing is the natural result of the upswing. Its first subphase is the Decline which is characterized by a reversal of the symptoms of the upswing. During its second subphase—First Rise—the downswing is checked and followed by a slight upward movement in the consumption of iron and coal.

The essence of the alternation of upswing and downswing is the rising or falling consumption of iron and coal and other producers' goods, and therefore the rising or falling investment in capital goods. Hence an explanation of the turning points and of cumulative factors shows what forces underlie the upswing or downswing and what conditions are favorable to it.

Spiethoff's theory of the lower turning point depends on the assumption of idle factors of production, idle commodity stocks, and idle money. His impelling forces are the exogenous factor of territorial expansion, the exogenous factor of technical innovations, and the psychological factor of business incentive. In this analysis Spiethoff abandons the Juglar to some extent and, like Schumpeter and Keynes, depends on the forces which determine a Kondratieff upswing. His endogenous forces are the interaction between the rate of interest and the rate of profits via cost-price relationships, an increase in productivity due to internal economies, and large scale reorganization of firms.

Once a rise has been initiated, it depends on cumulative forces for a continuous self-generating upward movement. These forces are the increased optimism of entrepreneurs due to rising profits, and therefore rising employment, rising output, and a rising accumulation of money. Implicit in this discussion is the acceleration principle as well as the investment multiplier. In a later stage, prices begin to rise as a consequence of rising capital investment and of an increased consumption of producers' goods. His explanation of the downswing is a reversal of these forces.

Spiethoff's theory of the upper turning point hinges partly on his concept of a shortage of investible funds. This concept has been variously interpreted and has been made to appear as his sole explanation of this phase. By itself it does not provide a satisfactory explanation of the upper turning point, but such an explanation can be made to follow from all of the forces which he mentions as being at work in this phase.

On the supply side appears (1) the money factor which prohibits continued expansion of capital goods. This takes the form of both a shortage of investible funds and a relative decline in incomes of salaried employees, rentiers, and wage earners because of the lag in incomes relative to price rises, and because apparently their ability to save declines. This retards consumption. (2) There is the physical factor, which takes

the form of a shortage of labor and raw materials and their complements. (3) There is the technological factor of the length of the period of production.

On the demand side appears (1) the factor of absolute saturation of demand for capital goods which is at work in highly industrialized nations, (2) the decline in demand which has to do with the decreasing rate of expansion of plant and equipment, (3) the technological factor of the durability of capital goods, and (4) the decline in real incomes which acts to retard consumption.

Affecting both demand and supply is the psychological factor of expectations. Taken as a whole, Spiethoff's explanation of the upper turning point is realistic even if somewhat confusing. It has the advantage that most of the factors which he mentions are endogenous.

Spiethoff's theory of the crisis is the only part of his analysis which stresses monetary factors. The crisis consists of a sudden collapse of credit, because the crisis itself is the result of overspeculation and over-expansion of credit. Besides the credit crisis, Spiethoff distinguishes also the securities and commodities crisis, the crisis of new enterprises, and the crisis of investible funds, which are related to the credit crisis in different degrees depending on their dominating and causally determining characteristics.

Spiethoff's theory of the building cycle demonstrates that residential building proceeds in cycles which display in general the same pattern as the business cycles, but lead the phases of the cycle. This is the result of abrupt changes in population, the fact that residential building depends on the short-term money market, and the highly speculative character of that industry.

Spiethoff's philosophy of economic fluctuations does not allow for the concept of a norm or equilibrium. He thinks that upswing and downswing must alternate inevitably and immutably as long as economic man follows his gainseeking instincts, and as long as he employs capitalistic production methods in a free money market organization. These three are the internal elements necessary to produce and perpetuate economic fluctuations without the need for external shocks. Spiethoff considers business cycles the most powerful method that could have been devised to wring from man the last ounce of economic willpower: "During prosperity the candy of profits,—during depression the whip of want!"

SPIETHOFF'S THEORY IN THE LIGHT OF BUSINESS CYCLE THOUGHT

Aftalion developed an overinvestment theory of the business cycle which in many respects is in agreement with Spiethoff's. Bouniatian's monetary overinvestment theory and Cassel's undersaving theory have also much in common with Spiethoff's theory. Schumpeter's theory, in spite of a different theoretical approach, resembles Spiethoff's closely.

In the writings of these four economists the areas of agreement with Spiethoff outweigh the areas of disagreement.

This is not so with the "modern" theorists. Hawtrey, Hayek, Keynes, and Hicks have a different conception of economic processes and their business cycle theories are subordinate to their general systems, or so imperfectly stated that they have to be abstracted from their systems as a whole.

Hawtrey and Hayek, although their theories are based on different premises than Spiethoff's, have a monetary explanation, especially of the upper turning point, which is not very different from his.

Keynes' business cycle theory has three aspects: the *Treatise* discussion of the cycle was conceived under Spiethoff's influence, his *General Theory* model is concerned with the Kitchin cycle, but his chapter on the Trade Cycle more nearly with the Juglar. Keynes' "vision" in many respects resembles Spiethoff's, but otherwise the theories of Keynes and Spiethoff rest on different empirical assumptions and it is therefore only possible to show similarity and dissimilarity in specific areas.

Hicks' theory (*Value and Capital*) is in part formally dynamic and although like Keynes, Hicks did not devote more than a chapter to business cycles, his system as a whole has some important similarities with Spiethoff's theory. Both Keynes and Hicks depend to a larger extent than Spiethoff on exogenous factors, but have created concepts which, in themselves dynamic, can be made to yield an endogenous explanation. Hicks' premises of his dynamic system are not fundamentally different from Spiethoff's, and in that respect Hicks is closer to Spiethoff than Hawtrey, Hayek, or Keynes.

CONCLUSION

Spiethoff's contribution to business cycle theory consists of: (1) the way in which he assembled, processed, and evaluated a mass of statistics for the purpose of deducing from them the rhythmical patterns of the economy; (2) the method of *anschauliche Theorie* which gave unity to the abstract-theoretical and the historical-quantitative analysis; (3) the concept of the "model" cycle with its idealized phases and subphases; (4) his treatment of cumulative factors and turning points; and (5) his social philosophy which follows from his business cycle theory.

Spiethoff's basic assumption is that of a dynamic, expanding, capitalistic society. This assumption is still relevant today, at least in the United States. The pattern of development in the latter half of 1947 and early in 1948 shows a dangerous unbalance in the structure of production, somewhat of the type that Spiethoff described. His theory can in some respects explain the investment boom following the Second World War. Spiethoff's correctives for such an unbalance, however, were not designed to cope with major dislocations, because of his conviction that

the free enterprise economy is limited in countercyclical measures. He believes that such an economy cannot stabilize business activity through monetary controls or price control, but it can ask the key industries to refrain from further expansion during the upswing, and it can demand an expansion of publicly managed enterprises during the depression, such as public utilities, public corporations, railroads and other large enterprises connected with transportation, and residential building.

These measures, Spiethoff thinks, can help to mitigate cycle extremes, but in general nothing can be done to arrest the immutable alternation of upswing and downswing without also arresting economic progress. This philosophy is not shared by the industrial countries of 1948. Their policy is to attempt to adjust the various components of the economy so as to avoid a depression. In this task, however, Spiethoff's analysis and exposition are of some help in clarifying the basic issues in a manner that supplements the Keynesian theory.

SUMMARY OF DISSERTATION
SUBMITTED FOR
THE DEGREE OF
DOCTOR OF JURIDICAL SCIENCE

1948

THE JURISDICTION OF NAVAL COURTS

by JAMES SNEDEKER •

SOURCES OF JURISDICTION

The approach to the problem of the jurisdiction of naval courts is herein made from the constitutional viewpoint, as distinguished from the viewpoint of naval practice. The naval court-martial system was established by Congress pursuant to the power to "make rules for the government and regulation of the . . . naval forces". Congress enacted whole bodies of naval law in 1799, 1800, 1862, and 1874. Each, except the last, undertook to revise the earlier laws. Congress manifestly is not permitted to abdicate, or to transfer to others, the essential legislative functions vested in it by the Constitution. It may, however, delegate a power to make regulations, or to fill up the details, or to exercise discretion, provided it lays down an intelligible principle, or standard. The Secretary of the Navy, with the approval of the President, has, without express delegation, supplied the procedure for general courts martial, and has made many rules, both substantive and procedural in nature, for the conduct of trials by naval courts. This asserted power is based upon two sections of the Revised Statutes, one of which conferred only administrative power and contemplated only ministerial regulations, and the other recognized as regulations of the Navy the regulations issued prior to 1862, with such "alterations" as were adopted between 1862 and 1874, subject to "alterations" adopted in the same manner. It is the latter upon which the Navy Manual, Naval Courts and Boards, is based. Yet prior to 1862, there were few valid court-martial regulations issued, and a whole system of such regulations, issued in 1853, had been declared by Attorney General Cushing invalid as beyond the executive power. In 1874, there were many regulations extant, but few which complied with the provisions of the law. The courts, however, overlooked this, and misstated the applicable statute. These errors were perpetuated. It was not until 1913 that the Navy's concept was declared fallacious by Attorney General McReynolds. The Navy, however, continues to adhere to the dicta in the old cases.

Winthrop is responsible for the fallacious concept that courts martial are "simple instrumentalities of the executive power", a concept he derived from misinterpretation of the pronouncement by the Supreme Court that courts martial had no connection with the federal courts mentioned in the third article of the Constitution and from the false analogy to British military tribunals. Winthrop's concept so pervaded the military minds that we find in 1919 a Judge Advocate General of

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the Army warning Congress that a proposed law to create a court-martial court of appeal would so impair the executive power as to invite the Supreme Court to hold it unconstitutional! The concept also pervaded the Navy, and substantive changes in offenses were made in 1937 without legislative authority. It seems impossible to comprehend "government" without including judicial proceedings. Certainly to the founders of our country and to the authors of the Constitution, "government" did not exclude the judicial concept.

There is another source of authority for the issuance of regulations. The Constitution vests in the President the executive power and the title of Commander-in-Chief of the Army and Navy. His function as Commander-in-Chief authorized him to issue, personally or through his naval subordinates, such orders as are necessary to enforce discipline in the Navy. His function as Executive empowers him, personally or through the Secretary of the Navy, to prescribe regulations, when required, for the proper execution of statutes relating to the Navy. Such regulations, which require no sanction from Congress, relate to enforcement and execution. They cannot encompass matters of a legislative nature. The office of Commander-in-Chief is a source of considerable and undefined powers. But a difference must be recognized between situations arising under Article I, sec. 8, clause 14 of the Constitution, and those arising under martial law, military government, and the law of war. While the scope of his power as to the latter situations remains to be fully explored, the power to make rules for the government of naval forces resides in Congress. The judicial attitude becomes an important factor. The United States courts, however, are accessible to an aggrieved accused person in the armed forces only through a few restricted remedies. Since courts martial are not courts of the federal judicial system, the remedy of regular appeal which would be available from a lower civil court is not available from a court martial. There are five possible remedies: (1) a suit for pay, illegally withheld, (2) mandamus, (3) certiorari, (4) writ of prohibition, and (5) writ of habeas corpus.

The only effective remedy is habeas corpus, which was not a right generally recognized in colonial America, but was grasped by the people following the Revolution. The federal courts, like the British courts, limited their inquiry to the lack of jurisdiction of a court martial, notwithstanding that rights guaranteed in our Constitution might actually, though not legally, be denied in a military or naval court having jurisdiction over the person and the offense. Congress passed an Act in 1867 allowing the courts to look behind and beyond the trial record, but the courts continued to limit their inquiry as before in court martial cases. They made no distinction between the sources of British and American military law, or between the vastly different concepts of the Englishman

and the American relating to the control of the armed forces. In order to fit the constitutional guarantees into the old concept of jurisdiction, the Supreme Court ruled that "jurisdiction" once acquired may be "lost in the course of proceedings" by a denial of Constitutional rights. This theory was recently applied to courts martial by some circuit courts, but not by others.

Congress could correct this reluctance of the courts to act, but until now the pressure of public opinion has been so slight as to go unnoticed. In World War I, when civilians were drafted into the Army, about $4\frac{1}{2}$ per cent of our population was in uniform. Some hue and cry was raised following this war, and the public became somewhat conscious of the impact of Army justice upon citizen soldiers. A few minor changes were made in the Articles of War, the proponents of radical reform were suppressed, the citizen soldiers were demobilized, and the public relaxed with the assurance that the war just won had been a war to end wars. Then came World War II, popularly called a "total war". Civilians were drafted into the Navy as well as into the Army, yet at the height of the conflict less than 9 per cent of our population was in uniform. Another and louder hue and cry was raised concerning the impact of military and naval justice, and a few more changes were made in the Articles of War. A bill to revise naval law died in the Congressional Committees. In the next war of atom bombs, guided missiles, and bacteriological warfare, perhaps 50 per cent of the people will be in the services. At some point along the dangerous paths to the future, the public must awaken to the necessity of reforming that law.

JURISDICTION AS TO CONSTITUTION OF NAVAL COURTS

General courts martial may be convened by the persons designated by statute and by officers of certain classes when so empowered by the Secretary of the Navy. Such a court consists of from five to thirteen commissioned officers.

Summary courts martial may be convened by officers designated by statute, or by the Secretary of the Navy. Such a court consists of three officers not below the rank of ensign. A deck court, consisting of one commissioned officer only, may be convened by any officer who is authorized to order either general or summary courts martial.

A naval court must be convened by a person empowered to do so, or it has no status as a court, but a recital of such power is sufficient.

JURISDICTION AS TO PERSONS

There are fifteen classes of persons subject to trial by naval courts:

1. Persons on the active list of the Navy and Marine Corps, while serving in the naval service
2. Officers on the retired list of the Navy or Marine Corps, including Reserves

3. Enlisted persons on the retired list of the Naval or Marine Corps Reserve or on the honorary retired list with pay

4. Midshipmen

5. Officers and enlisted persons of the Fleet Reserve

6. Reserve officers and enlisted persons, other than Fleet Reserve, of the Navy or Marine Corps, while on active duty, training duty, traveling to and from duty, or during such time as they may by law be required to perform active service, or while wearing the uniform

7. Public Health Service officers detailed for duty with the Navy

8. *De facto* officers and enlisted persons

9. Former officers of the naval service dismissed in time of war by order of the President, who make written application for trial, setting forth under oath that they have been wrongfully dismissed

10. Discharged and dismissed persons, chargeable with having committed fraud against the United States while in the naval service.

11. In time of war or national emergency, personnel of the Coast Guard, the Coast and Geodetic Survey, and officers of the Public Health Service, when serving as a part of the Navy

12. Prisoners of war in naval custody

13. All persons who, in time of war, come or are found in the capacity of spies, or who bring or deliver seducing messages from an enemy, or who endeavor to corrupt any person in the naval service to betray his trust

14. In time of war or national emergency, non-military persons accompanying or serving with naval forces outside continental United States (except in certain areas).

15. In time of war or national emergency, non-military persons within leased areas outside continental United States (except in certain areas) and under control of the Secretary of the Navy.

Jurisdiction normally terminates upon discharge, dismissal, or resignation. The mere expiration of enlistment, however, does not dissolve the naval status, and if, prior thereto, the jurisdiction of naval law has attached, it is not divested by the expiration of the contracted term.

Article 14 of the Articles for the Government of the Navy purports to make discharged and dismissed persons amenable to trial by courts martial for fraud against the United States committed while in the naval service. Article 94 of the Articles of War carries a similar provision for the Army. These persons are civilians. The constitutionality of these statutes was questioned by Winthrop, and was denied by a federal district court in 1946. They appear to be clearly unconstitutional, as violative of the rights of civilians guaranteed by the Fifth and Sixth Amendments.

Jurisdiction over prisoners of war was conferred by treaties, rather than statute. Spies must be caught clandestinely carrying out their

mission of seeking information in the zone of operations for transmission to the enemy. The concept of the "zone of operations" has been greatly enlarged since 1907, because the methods of warfare have changed. Civilians made amenable to naval law by statute are those outside the areas where the Fifth and Sixth Amendments apply, so that this statute is unquestionably constitutional. When such a civilian becomes aligned with a military enterprise, he becomes subject to naval law, and his actual employment by the Navy is not an essential element.

JURISDICTION AS TO PLACE

The general rule is that offenses against naval law, wherever committed, are triable by naval courts, although there is no express provision of statute covering the rule. Jurisdiction of the offense of murder, however, is expressly limited to murder committed "without the territorial jurisdiction of any particular state, or the District of Columbia". The comparable Article of War uses the words "geographical limits". There is a difference in the meanings of these words. A federal reservation within the limits of a state may be under concurrent federal jurisdiction, and state courts can take cognizance of offenses there. The Navy cannot try murder committed there. The jurisdiction over murder committed on the "high seas", which includes water on the seacoast beyond the low-water mark, is, up to the 3-mile limit, under both federal and state jurisdiction. Since the jurisdiction of a naval court and that of a state court over the place where murder has been committed are mutually exclusive, a naval court cannot lawfully try murder committed on board a vessel within a state's 3-mile limit. The Navy, however, has consistently denied the jurisdiction of state courts over naval vessels within the admittedly territorial limits of a state.

JURISDICTION AS TO TIME

Since naval courts do not depend upon a state of war or emergency for their jurisdiction, except as to certain acts or omissions which become offenses only during wartime, and except as to certain persons who are subject to naval law only during war or national emergency, the jurisdiction of naval courts is restricted in point of time only by the operation of the statute of limitations. The general rule is that no person can be tried by court martial for an offense which appears to have been committed more than two years before the issuing of the order for such trial. The rule applies to all offenses except desertion in time of peace, which has a special rule that the two-year period does not begin to run in the case of an enlisted person until the end of his term of enlistment. This is an anomalous double standard as to offenses. Upon it is superimposed a second double standard as to persons, since, as to officers, the two-year period begins to run from the date of desertion in peace or war.

JURISDICTIONS AS TO OFFENSES

The present jurisdiction of naval courts as to offenses must be found in the statutes, since no provisions of treaties enlarge that jurisdiction. All offenses triable by court martial are known as military offenses, but offenses should be classified as exclusively military and not exclusively military because as to the former courts martial have exclusive jurisdiction and as to the latter concurrent jurisdiction. To compile a list of these offenses, it is necessary to understand the principle of double jeopardy and the significance of lesser and included offenses. It is also necessary to accept, to a great degree, the naval definitions of offenses. Since, by statute, some are specified without being defined, and some are not even specified.

Double jeopardy has been a problem to the civil courts. It was not until the landmark case of *Grafton v. U. S.* in 1907 that the principle of double jeopardy was applied to courts martial, and as late as 1911, it was believed that none of the constitutional guarantees of the Fifth Amendment applied as a matter of law to persons in the naval service.

What constitutes jeopardy was first determined by the common law at the time the Constitution was adopted. That law forbade a second trial whether or not the accused had suffered punishment, or had been acquitted or convicted. The Supreme Court laid down a rule that a person had been in jeopardy when he was regularly charged with crime before a competent tribunal. The effect of a defective indictment posed a problem.

There is a fundamental difference between the review of naval courts martial and the appeal of criminal cases in civil courts. The court martial record is reviewed in what the Navy sometimes terms an "automatic appeal", without any request of the accused. During this review, a fatally defective specification may be discovered, but the accused cannot be said to have taken any action from which a waiver of his constitutional protection may be implied. An order for a new trial, issued upon the initiative of reviewing authorities, violates his rights. Present regulations direct a second trial, with defects in the specification corrected.

In searching for the meaning of "same offense", the civil courts have evolved various theories, none of which seem complete. The test most often cited is known as the "same evidence test", found in *Morey v. Commonwealth* and used by the Supreme Court. But the test is not sufficient, because it disregards the elements of the offenses charged, and overlapping elements which, in themselves, constitute a lesser included offense. Bishop was an advocate of the "same transaction" doctrine, that "same offense" is equivalent to the same criminal act. He has been quoted by the courts but his view has not generally prevailed. Courts have recognized as an exception the "included offense" doctrine, that one offense may necessarily include the other in fact as well as in law. The

inclusion in law makes necessary the consideration of five types of cases:

1. All elements of one count are entirely included among the elements of the other. **After one trial, the second is barred.**

2. The elements common to both counts constitute in themselves an offense. **After one trial, the second is barred.**

3. The elements common to both counts do not constitute an offense. Trial for one is no bar to trial for the other.

4. The second count includes all the elements of the first count, but also alleges an aggravating element which did not intervene until after the first trial. If the greater offense is tried first, it bars the second trial. If the lesser is tried first, it bars the second trial unless, at the time of the first trial, the aggravating elements had not been consummated.

5. No elements in common, although both offenses were committed in the same transaction. Trial for one is no bar to trial for the other.

In the court martial system, an accused is tried in a single trial upon all the charges and specifications against him. In such a trial, the rule against double punishment still applies. The true meaning of "same offense" appears to demand the following rule:

Whether there are successive trials, or a single trial on several charges or specifications, the plea of double jeopardy lies

1. If the offenses alleged have an offense in common

2. If the relation between the offenses alleged is such that, by law or precedent, the court is authorized, for any reason other than that one offense is included within the other, upon trial of one offense to conviction of the other

3. If the pleader could have alleged in a single specification what appears in two or more specifications, without duplication other than of persons or things.

The unspecified offenses against naval law are derived almost wholly through the language of the "general article", Article 22(a) of the Articles for the Government of the Navy. Much depends upon the intended meaning of that article, yet little is known of the intent of Congress in enacting it. Different conclusions respecting it have been reached by the Supreme Court and the Attorney General. These two conclusions were reached from entirely different approaches and from different points of view.

Dicta of the Supreme Court found its way into the Navy's Manual, and was used to cover offenses which it would have been beyond the power of Congress expressly to enact. The basis for assertion of court-martial jurisdiction under the general article should be examined under five heads:

1. Violations of international law

2. Violations of federal law

3. Violations of local orders or regulations
4. Violations of custom
5. Offenses created without legislative authority.

The law of nations is a part of our criminal law only to the extent that it has been recognized by the Constitution or declared by statute. Offenses in the Federal Criminal Code are most certainly covered by the general article. So are offenses committed on federal reservations within states which violate state laws which were in force February 1, 1940, because under the Assimilative Crimes Act they become federal offenses. The issuance of lawful local orders and regulations is within the executive power, and their enforcement by courts martial could logically have been contemplated by Congress in enacting the general article.

Many offenses tried by naval courts are based upon custom. Custom grows out of acts long continued, certain and uniform, compulsory, consistent, of general application, well known, and not in derogation of formally created law. Any so-called custom which disregards the nature of the acts involved is misnamed. The most prevalent fallacious concept in the Navy is that which holds non-violation of any law to be custom. It punishes breach of that "custom" without regard to the act involved, the violation itself being considered the gravamen of the offense. Although there is no common law of the United States enforceable as such in the federal courts within the states, there is no restriction on the power of Congress to adopt by reference a body of existing law and to make it applicable to the armed forces. Such common law as was in force in the various states in 1874 fulfills all the requirements of custom. It has been held by the Supreme Court applicable to the Army. Acts which in their nature bring discredit upon the service have been punished since the establishment of our armed services. Such acts appear to be the only offense which can be traced to the Court of Chivalry of the days of Knighthood. In prosecuting officers, the charge "Conduct unbecoming an officer and a gentleman" is used. The basis of this charge is truly custom, but it has held to cover practically any misconduct by an officer, whether related to his status in the service or not. It has been used to allege a variety of acts which are neither disgraceful nor offenses under any law or custom. If "offenses" in the Navy's general article actually covered all the acts to which the Navy applies that article, there would be grave doubt as to its constitutionality, because it is not clear and definite, and fixes no standard of conduct.

There are some "offenses", apparently held punishable wherever committed, which have been incorporated into the Navy's manual with no legislative authority to support them. By the process of elimination, they must rely upon the theory that they violate custom, yet no custom,

that term has been defined, fits them. Some of these are federal crimes only when committed in specified places or under certain conditions, like extortion and seduction. Some are not based even in part upon statute, and are not considered to be restricted by any theory of law, such as blackmail, bribery, disorder, and housebreaking. Typical of the expansion of the scope of offenses by executive action is the present naval offense of embezzlement of private property, which was made the subject of a specific charge in 1937 without legislative authority. Pleas to the jurisdiction on the ground that the offense alleged was not one cognizable by naval courts have been summarily overruled. Another change made in 1937 was the making of a specific charge of "Carelessly endangering the lives of others", with no definition whatever. There is no parallel in non-service criminal law.

The civilians which are subject to naval law can be tried for all naval offenses except those of such a nature that they can be committed only by naval personnel. It is clear that Congress intended to give to the Navy a comparable jurisdiction to that which had been given to the Army. Such civilians may be tried for desertion, disobedience of orders, and even for violations of the general article. These military offenses are chargeable against civilians as well as against persons with naval status. Wherever a duty may be lawfully placed upon a civilian, he is triable by court martial for its breach.

General courts martial have a jurisdiction over offenses co-extensive with naval law. Summary courts martial try offenses deserving of punishment intermediate between that of a general court martial and the power of a commanding officer. They can impose a bad-conduct discharge, and offenses involving moral turpitude are tried by no lesser court. Deck courts try the minor offenses such as unauthorized absence, which fall within summary court-martial jurisdiction. Offenses are scaled, not according to their natures or elements, but according to the adequacy of the punishment which, in the opinion of the convening authority, conviction would warrant; and the forum selected will be the lowest naval authority or court empowered to impose that adequate punishment.

SUMMARIES OF DISSERTATIONS
SUBMITTED FOR
THE DEGREE OF DOCTOR OF EDUCATION

1947 and 1948

GUIDE TO THE PREPARATION OF AN OCCUPATIONAL MONOGRAPH

by MAX FRANK BAER *

PURPOSE AND PROCEDURE

The primary purpose of this dissertation is to offer a guide to those preparing occupational monographs. An occupational monograph describes a single occupation or occupational field from every standpoint considered significant in career planning. The dissertation may also be helpful to vocational counselors and librarians who are called upon to evaluate occupational literature.

This study begins by describing briefly several ways of presenting the results of occupational research: (1) general occupational surveys, (2) industrial studies, (3) specific data studies, (4) community occupational surveys, (5) employment problems surveys, and (6) occupational monographs. The criteria or general characteristics of an adequate occupational monograph are indicated.

The dissertation is developed around the framework of an occupational outline, the major items of which are: Nature of the Work, Size and Distribution, Outlook, Personal Requirements, Preparation, Working Conditions, Economic Returns, Occupational Relationships, Entry into Occupation, Advantages and Disadvantages, and Sources of Further Information. Methods and techniques of conducting research are set forth for each of these items in a separate chapter. There is discussion of the significance of each major item and sub-item in the occupational outline, the development of research relevant to each, and the advantages and limitations of specific research procedures.

The dissertation is based in large part upon books, pamphlets, reports, releases, articles, and other documents of public and private agencies engaged in occupational research. It is based in part upon the writer's nine years of experience in directing occupational research. Appropriate portions of the manuscript were reviewed by research experts in the Bureau of Labor Statistics of the United States Department of Labor, the Occupational Analysis and Industrial Services Division of the United States Employment Service, and the Bureau of the Census. Helpful suggestions made by these technicians were incorporated into the final manuscript.

NATURE OF THE WORK

Three approaches to the nature of an occupation are job analysis, questionnaires, and personal interviews. Ideally, such information should be obtained at its original source—the job. In most cases authors of

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occupational monographs can make use of the job analysis reports of the United States Employment Service.

There is a natural tendency on the part of workers to "upgrade" themselves in describing their jobs, and employers frequently underestimate the level of skill and responsibility required by a job. The most adequate approach is a combination of observation of the job and interviews of workers, supervisors, employers, etc. Job analysis is not practical for certain occupations, the nature of which must be ascertained through questionnaires and interviews, preferably the latter.

SIZE AND DISTRIBUTION

The chief reason for seeking data on the number of workers engaged in an occupation is its value in pointing to replacement opportunities. This purpose is served more specifically when the number of workers can be broken down according to sex, race, specialty and function, places of employment or industry, and locality.

Data of this type may be sought from employers or workers. The approach may be through personal interviews or questionnaires. The coverage may be complete or a sample.

A survey of employers misses workers who are self-employed. It is difficult to reach the smaller firms. Some employers are prone to deflate the jobs in their establishments, while workers tend to inflate them. If sampling techniques are employed, great care must be used in developing a representative sample and in making allowances for omissions. If workers are interviewed directly, the information is at least as reliable as that obtained from employers. The cost is very great, particularly if there is a complete enumeration. In addition, the interviewers used for a complete enumeration of workers are usually less competent. Whenever occupational data are sought through interviews, accuracy depends largely upon the quality and training of the interviewers, the thoroughness of the interview, and upon the information in the possession of the respondent, especially if he is not the worker himself but a member of his household. Questionnaires, whether sent to workers or employers, involve less cost and can reach individuals not readily available for personal interviews. On the other hand, the proportion of respondents may be low and the likelihood of inaccurate responses is greater.

The United States Census of Population is the principal source of data on numbers of workers in occupational groups. The sampling enumeration of workers, such as that undertaken by the Bureau of the Census in 1940, may offer the most practical procedure for obtaining information on the number of workers in the numerically significant occupations. Sampling methods may be unsatisfactory for smaller occu-

pations or for smaller communities. States and localities are encouraged to make their own enumerations of workers under the guidance of the Bureau of the Census between federal census periods.

OUTLOOK

Occupational outlook is determined by relating the demand for workers in an occupation to the supply of such workers. Past trends in the demand for workers in the occupation offer a rough guide to future demand. More refined outlook studies require analyses of the causes underlying past trends. Occupational outlook research must proceed from studies of the total demand for workers, to demand by industries, to occupations. In order to estimate total future demand for workers, it is necessary to study the complete cycle of economic activities, including income, demand for goods and services, production, and employment. A study of inter-industry relationships results in estimates of the distribution of total demand for employment in specific industries. Estimates of the levels of employment to be expected in specific occupations are dependent upon a knowledge of the occupational composition of different industries at specified levels of production.

The demand for workers in many professional and service occupations is more or less independent of production levels in any industry. Forecasts of the demand for workers in such occupations must begin with a study of past trends and consider a variety of factors that are likely to influence future trends, such as legislation, acts of God, depletion, age composition of the population, tastes, and styles.

In estimating the supply of workers in an occupation a given number of years hence, it is necessary to determine the difference between those who are now engaged in the occupation plus those likely to enter it within the time span studied and those who are expected to leave the occupation within the same time period.

The most significant research on occupational outlook is being done by the Occupational Outlook Division of the Bureau of Labor Statistics. Many professional societies are doing useful work of this kind.

PERSONAL REQUIREMENTS

Among the personal requirements specified by employers are (1) mental: aptitudes and special abilities, character and personality traits; (2) physical: sex, age; and (3) citizenship: race, religion, and nationality.

Information on physical, sex, and age requirements is less difficult to obtain than information on the other points. Job analysis offers the most reliable method of getting data on physical requirements, since the analyst can see the actual physical demands made on the worker. Supplementary information given by the worker himself enables the analyst

to verify what he has observed. However, such data may not be entirely in agreement with job specifications of employers, which must also be taken into consideration.

Information on sex requirements may be obtained through United States Census reports, through job analysis, and through studies of employer specifications. The chief limitation of census data is the ten-year interval between enumerations, during which changing economic conditions may alter the pattern of demand for women workers. Observations of the proportion of women employed in a given occupation in an establishment may likewise obscure a recent change in the demand for women workers. Job specifications represent the most realistic sources of information of this type. All of the sources suggested here should be tapped to obtain as complete a picture as possible of sex requirements for different occupations.

The United States Census is of somewhat less value in determining age requirements than it is in determining sex requirements. A high median age of workers in an occupation may reflect a breakdown of training programs rather than employer discrimination against younger workers. Observation of workers is subject to the same limitation. The actual specifications of employers are the most reliable sources of information on age requirements.

It is much more difficult to obtain information on the mental aptitude and special ability, character, and personality requirements of occupations. There is no general agreement as to what these traits are and what they mean. Since there is a wide range of scores in measurement of traits for an occupation, the use of minimum scores is warranted. Testing of workers in a given occupation has become an increasingly important technique. The technique, however, is no better than the instruments of measurement; and, though much progress has been made in the development of mental tests, the field of aptitude testing is still in its infancy, and even less can be said which is favorable to so-called personality tests. Rating of workers' characteristics by job analysts is another useful approach, when trained and competent job analysts are employed and when there is a composite of the estimates of a sufficiently great number of ratings. The "halo" effect is one pitfall. Another is the discrepancy between the judgments of raters and the actual specifications of employers. Employer specifications, though often unrelated to the intrinsic requirements of satisfactory occupational performance, are significant indicators of the kind of workers employers actually hire. Frequently a group of workers in an occupation is given establishment makes high test scores on traits that are not significant in relation to the requirements of the occupation itself. On the other hand, even job specifications do not always reveal the prejudices and preferences that govern actual hirings.

The United States Census, by showing the distribution of workers in occupations by race, is the best source of information on race requirements. However, economic changes occurring between census periods may result in important changes in the pattern of employment by race. Employment agencies are another source of information on racial requirements. However, many agencies are unwilling to divulge information of this character, and statements made by the agencies in some instances are colored by their own prejudices. Restrictions with regard to the employment of aliens may be ascertained in part through an examination of statutes. Of course, there are prejudices against the employment of aliens independent of statutes. In so far as research problems are concerned, these fall in the same category as religious and nationality factors. Few employers will reveal their hiring practices through questionnaires. More, though not many, will be candid in a personal interview skillfully conducted under proper auspices with a promise of anonymity. Follow-up studies of school graduates or job applicants may yield valuable information, though the objectivity of respondents is not assured.

PREPARATION

An occupational monograph should state the general education required and considered desirable for admission to special training, for licensure, and for employment. Accrediting associations, professional societies, and labor unions are important sources of information, though their knowledge in these respects is generalized. Facts on licensure in a given state can be obtained from the appropriate state agency. College catalogues indicate the general education required for admission to special training, but they do not state what additional general education is helpful to the applicant for special training. Questionnaire surveys of employers provide information on actual employer specifications. The most accurate data are obtained through personal interviews of employers, though care must be taken to select a representative sample of employers in the occupation.

A section on special training required and considered desirable should be a part of every occupational monograph. Professional societies and labor unions can give general information of this kind. Training schools may be helpful in this respect, though their own curricula are often at variance with the actual requirements of employers. Employment agencies are familiar to a considerable extent with such requirements. Questionnaire surveys or interviews of a sample of employers will yield the most recent and most realistic information, with interviews preferred for the sake of accuracy.

Catalogues of training institutions indicate requirements for admission to special training. However, they state only the minimum requirements

and not additional qualifications significant in gaining admittance to schools. Personal interviews of school officials are very costly, since information is needed about specific schools and not a sample of schools. If interviews are conducted on a sample basis, young people will know only the general pattern of admissions practices. Questionnaire surveys can be conducted more economically and more complete coverage can be sought. However, neither questionnaires nor interviews will elicit information which the schools consider confidential. The most objective approach to facts of this character is through follow-up studies of young people applying for admission to training schools.

Professional societies can give general information on the capacity and enrollment opportunities of schools in their field of work, though they do not have the facts on specific institutions. Veterans' education information clearance services were established in 1946 in many states, generally in state departments of education. They may develop into sources of information for all prospective students. The Federal Apprentice Training Service has made a beginning in obtaining data on apprenticeship opportunities.

Information on schools offering special training may be obtained from the many directories that are being regularly published and revised. Professional societies are often able to supply up-to-date lists of training institutions.

Some of the directories also contain data on the financing of education and training, although the information becomes dated quickly in a period of rising prices. Professional societies can offer generalized information only.

Information on the importance of postgraduate study may be sought through a questionnaire study or interviews of a sample of employers. Studies of the educational backgrounds of professional workers are helpful in this respect, if the data are correlated with the ages of the workers.

Professional societies and labor unions can give general advice on the practical experience required and considered desirable for entry and success in an occupation. Training institutions may make helpful suggestions, though they are frequently out of touch with the actual requirements of employers. Employment agencies are more likely to be familiar with employer specifications. Workers may be queried, but there may be a tendency on their part to exaggerate the experience requirements of their jobs. Studies of the work histories of experienced workers should indicate entry and intermediate jobs leading to employment in the occupation. The most reliable information is obtained from employer specifications.

WORKING CONDITIONS

Among the factors that may determine career choice are physical, psychological, and social conditions of work; hours of work; and vacations. Both employers and employees are sources of information on working conditions. However, the former may tend to conceal or minimize dangerous or unpleasant conditions of work and the latter may be prone to exaggerate unsatisfactory conditions. Better responses can be obtained through interviews of a sample of employers, supervisors, and workers, but the cost will exceed that of a questionnaire survey and the information obtained will not be wholly objective. Actual observation of working conditions by job analysts, supplemented by the interviews, will result in the most objective data. Interviews of officials of labor unions and professional societies represents a short-cut, though the information obtained in this way is not likely to be sufficiently detailed.

The most logical approach to information on hours and vacations is through questionnaire surveys of a sample of employers in the occupation. Interviews for this type of data are unnecessary, since employers generally can make it available readily through written responses. The same information may also be sought from workers, but the responses may not be so accurate. Unions and professional societies are familiar only in general with hours and vacations, unless inquiries are addressed to local units.

ECONOMIC RETURNS

Regularity of employment is an important factor in determining the income of a worker. Analyses of cyclical changes in employment are bound up with outlook studies. Studies of seasonal variations in employment are based largely on reports of industrial establishments. Employers are a better source of information than workers, since they are more likely to keep records of employment levels from month to month. Few individuals or organizations have the resources to study seasonal variations in employment.

Studies of hourly wage rates alone are of comparatively little use in vocational guidance, since they overlook overtime pay and loss of pay through irregularity of employment. Studies of weekly or monthly earnings may include overtime pay, though they may also not reflect cyclical or seasonal unemployment. Theoretically, studies of lifetime earnings are of the greatest interest in vocational guidance. However, it is extremely difficult to plot earnings three or four decades ahead.

Earnings should be correlated with years of experience, levels of training, size of community, region, specialty, function, and sex. Only specific data of this kind have meaning in vocational guidance.

In calculating earnings, authors of occupational monographs should

avoid the use of arithmetic averages for occupations in which dispersions from the middle are great. An indication of median earnings is likely to be less misleading. The most useful procedure is the presentation of a comprehensive picture of earnings by deciles or quartiles.

One approach to information on the earnings of industrial workers is through questionnaires sent to the workers. However, this involves a great deal of unnecessary procedure, since the data are regularly supplied by employers to government agencies. Unions are another source of data on earnings of industrial workers.

Data on self-employed and professional workers are contained in United States Census reports. However, the figures are obtained only once in ten years and none are available for persons with incomes above \$5,000. The principal difficulty in getting information on earnings of self-employed and professional workers is the preparation of lists of workers representative of the occupations. Use of lists of members of professional societies introduces an upward bias. Lists of school graduates are not representative, unless they include graduates of a representative number of institutions. Placement agencies and training institutions are able to indicate beginning salaries in many occupations.

OCCUPATIONAL RELATIONSHIPS

An occupational monograph should indicate the relationship of the occupation to other kinds of work. Occupational relationships may be horizontal or vertical. Relationships are shown in job families, which group occupations on the basis of work performed; similarities in the use of machines, tools, and materials; the kinds and degrees of accuracies required; and the traits required of the worker. The development of job families therefore presupposes a detailed knowledge of jobs. For many occupations the job analyses and resulting occupational relationships developed by the United States Employment Service will serve authors of occupational monographs. The results of this research are detailed in the *Dictionary of Occupational Titles*, in the Job Descriptions, and in the Job Family series. Studies of the work histories of experienced workers are needed to chart the usual path of advancement in an occupation, since the vertical relationships established as a result of job analysis are theoretical for many occupations.

ENTRANCE INTO OCCUPATION

State and local regulations govern entry into many occupations. Information on licensure and certification requirements may be obtained from appropriate departments of state capitols and city halls. The national offices of professional societies and labor unions can provide only general information, but their local branches are sources of local information.

Since unions and professional societies are assuming increasing importance in relation to occupational entry, pertinent facts about the societies and unions should be included in occupational monographs. Such information may be obtained directly from the groups through questionnaires. However, information on admission practices is frequently confidential, and, if it can be obtained at all, must be sought through interviews with a promise of anonymity.

Information on the placement pattern of an occupation may be obtained from employers. However, they do not always keep records as to the proportion of workers who are employed as a result of recommendations by schools, referrals by public employment offices, newspaper advertisements, direct applications, etc. Questionnaires sent to a random sample of new workers in the occupation or follow-up studies of school graduates will get the desired information.

The extent to which workers enter a skilled trade through formal apprenticeship and via the helper route may be learned through questionnaire surveys of a representative sample of employers or workers. Some unions would give biased answers and the data supplied would not be complete.

ADVANTAGES AND DISADVANTAGES

A section on the advantages and disadvantages of the occupation serves as a summary of the factors considered important in career choice. It also serves to impart information not previously introduced. In preparing such a section, authors of monographs should be particularly careful of objectivity, specificity, and relative emphasis on positive and negative aspects of the occupation.

SOURCES OF FURTHER INFORMATION

Every occupational monograph, however comprehensive, should indicate sources of further information. It should list pertinent professional societies, labor unions, or trade associations. A number of directories are sources of such information. A list of printed materials relevant to the occupation should be included after evaluation of such materials. There are a number of guides and indexes to such literature. A monograph should also indicate the government agencies that are prepared to offer information on the occupation.

PREPARATION OF AN OCCUPATIONAL MONOGRAPH

It will be apparent to anyone who reads this dissertation or the materials cited in the footnotes and bibliography that occupational research consists of a number of specialties. Original occupational research is becoming increasingly the province of specialized agencies, particularly governmental. Few individuals or private agencies have

the resources with which to engage in research of this character. When they undertake to prepare an occupational monograph, the work generally consists largely of secondary research. Occasionally two or more agencies with limited resources collaborate in important occupational studies. Individuals and smaller organizations have been responsible for experimental research of a specialized nature which has become the basis of the more comprehensive research now being done by governmental agencies.

TEACHER EDUCATION IN INDUSTRIAL ARTS WITH SPECIAL EMPHASIS ON EVALUATIVE CRITERIA

by RALPH ORA GALLINGTON*

PURPOSE

Since 1930 there has been considerable interest in the improvement of teacher education in the United States. Fact-finding studies have revealed a number of issues which have given impetus to research in the form of experimentation, demonstration, and evaluation in institutions and curricula for the education of teachers. By this study an attempt was made to develop evaluative criteria of industrial-arts teacher education, with particular consideration to secondary school teaching.

LIMITATIONS

Industrial arts has often been defined and described by leaders in all branches of education. A review of these definitions yielded evidence that most educators agree on the general character of the work; but the aims, purposes, and scope have been interpreted in various ways by these same persons. In order to facilitate the progress of this study, and in order to give direction to it, certain definitions have been developed. The definition of secondary school industrial arts was stated as follows:

Industrial arts in the secondary schools is a body of subject matter dedicated to the development of understandings as well as skills in the uses of raw materials, tools, and machines of industry. It requires practice or drill in the use of many different tools, and the application of many industrial processes, in order that the student may satisfy his interest and challenge his aptitude and capacity for industrial activities. One of its greatest contributions to students of all levels is the kinesthetic training it affords. Most of all, industrial arts must be considered in terms of its part in the development of understandings for the complicated industrial society in which we live, but these understandings are *not necessarily* intended as a preparation for any particular occupational pursuit. The very nature of industrial arts is its flexibility in giving the student the thing he needs most with respect to his capacities for the offerings.

THE SPECIFIC OBJECTIVES OF INDUSTRIAL ARTS

A review of the literature revealed that it is common practice to list certain objectives for industrial arts which apply in varying degrees to all kinds of education. Actually, specific objectives seemed to be few in number but extremely important to this research study. As a basis for this investigation, and in terms of the author's own concepts, specific objectives were stated as follows:

To develop the kinesthesia in connection with learning.

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To develop understandings and skills in mechanical drawing—the universal language of industry.

To develop interests in and an appreciation of the many processes and operations in industry connected with the production and distribution of goods.

To develop interests in and an appreciation of good workmanship and design of past and present civilizations.

To develop self-confidence in the manipulative tasks which dominate the lives of persons in an industrial society.

A study of recent research in the field of industrial-arts teacher education further revealed that this particular phase of teacher education has many of the same problems and issues as other phases. From the American Council on Education Studies,* nine issues were selected for particular consideration in this study. They seemed to cover the common issues in industrial-arts education and were chosen as follows:

The objectives of teacher education need thorough revision and restatement.

Prospective teachers possess a very inadequate understanding of child nature and its implications for learning.

Means of attracting and selecting better students in the institutions for the education of teachers should be developed.

Members of the staff in teacher education institutions often lack essential preparation and an understanding of education.

Teachers, especially secondary school teachers, often lack adequate preparation in the subjects which they teach.

Too many teachers enter service with inadequate experience in practice teaching.

Teachers are inadequately prepared for creative activities in the conduct of their work.

Teachers lack understanding of other educational agencies in the community with which they should cooperate.

Teacher education institutions often lack contact with the social and educational problems of the schools within their region.

PROCEDURE

In developing preliminary criteria of a good industrial-arts teacher-education program, many sources of information were tapped. The literature in the fields of industrial education, teacher education, and secondary education was carefully examined. Authorities in these three fields were consulted, and advice was freely given. The preliminary criteria were also based on a considerable background of experience in industrial arts on the high school level and in industrial-arts teacher

* *Major Issues in Teacher Education*, American Council on Education Studies, Series I, Volume II, Number 4 (Washington: American Council on Education, 1938).

education on the college level. An attempt was made to develop criteria which would measure a good program; but in the early stages of their development, it was discovered that reliability would depend upon a wide sampling of expert opinion. Therefore, preliminary criteria were prepared for the judgment of a larger group of specialists.

As the first step in the validation procedure, criteria in preliminary form were judged by fifty-two specialists. These critics were selected upon the basis of their experience and upon the national recognition which had been given them for their outstanding achievements in one or more of the three fields embraced by the study. As a result of the judging it was evident that the criteria needed revision. This was accomplished in conformity with the outstanding opinion as indicated by the tabulation of responses made by the jurors.

Validity was established further by checking the criteria with outstanding practices in superior departments or divisions offering industrial-arts teacher education. A check-list of questionnaire type was used to determine outstanding practices. Twenty department heads and directors supplied information called for in the check-list and as a result it was necessary to make some additional but minor changes in the revised criteria. This produced the criteria in final form.

Inasmuch as the check-list had provided a means to determine the outstanding practices in superior schools, it was decided to use it as a basis for preparing instruments of evaluation. In its original form, the check-list was not only the measure of outstanding practices; it was also a measure of *other practices*. Therefore, it was revised but was kept in check-list form for ready application to programs of industrial-arts teacher education. The revised check-list should measure, to an unrated degree, the relative conformity of selected programs with the superior ones examined. No attempt was made to give value to items in the list, nor to establish norms for the entire check-list as revised. It is believed, however, that the criteria and instruments of evaluation will measure superior programs to a reasonably high degree.

CRITERIA OF A GOOD TEACHER-EDUCATION PROGRAM IN INDUSTRIAL ARTS

CRITERION I

There should be objectives which determine the educational program of industrial-arts teachers; they should be thoroughly and precisely stated; and they should be completely understood and agreed upon by a large percentage of those persons responsible for and concerned with the program.

The program should be determined by objectives.

Specific objectives should govern the organization for efficient opera-

tion. They should give direction to the organization of the program, and to do so they should be specific rather than general in nature.

From the suggestions made by department heads and from the sample objectives examined, it seemed advisable to have copies of objectives prepared by some quick-duplication process, thereby making it possible to provide wide circulation soon after revisions occurred.

Initiative for getting key people interested in industrial-arts teacher education probably lies with the department head or director. In order to get effective assistance and cooperation in establishing objectives, doubtless he will have to call discussion meetings; invite outside interested persons to participate in discussions or give short talks; and stand ready to present his own problems before other groups.

The specifications needed to satisfy this criterion follows:

1. Without conflicting with the principles of industrial arts, objectives should be in accord with and reinforcing to the philosophy and objectives of the school or college in which the program is established.

Coordination of effort toward common goals is necessary for maximum accomplishment. Understanding of the total training of industrial-arts teachers should be fairly consistent among departments cooperating within the institution.

2. Objectives should be stated briefly but should give full coverage to all phases of the educative processes and problems in the program.

If practical use is to be made of them, objectives should be attainable. They should reflect the purposes of the program.

3. Objectives should cover selection, orientation, general education, major-field preparation, and professional education of industrial-arts student teachers.

4. Objectives should be stated in terms of teaching skills and understandings as well as in terms of subject-matter skills and understandings.

Subject-matter should be used as a means to an end—the development of a good teacher—not as an end in itself.

5. Objectives should indicate professional education sufficient to meet the needs of a beginning teacher.

The teacher entering the profession cannot be considered a finished product, but he should have a foundation of education which will enable him to grow normally under proper supervision. Since he will need to continue his professional education for many years, the institution should keep this in mind and encourage him to plan accordingly.

6. Objectives should include the development of adequate knowledges and skills inherent in the basic industrial arts.

The teacher should have a satisfactory command of the subjects he teaches, including the necessary knowledges and skills.

7. Objectives should indicate goals for the development of leadership and administrative skills in students.

The special nature of industrial arts demands that the teacher have abilities in industrial management, not especially involving *production* but rather *shop administration* and *foremanship organization*.

8. Objectives should specify learning experiences leading to effective cooperation in various secondary school curricular programs.

The organization of curriculum material varies from school to school. The core curriculum, as distinguished from the correlated curriculum, may be cited as an example. Nevertheless, it is desirable that industrial arts be an integral part of whatever program is involved.

9. Objectives should be influenced by the cooperative action of instructors and administrators from inside as well as outside the institution.

Those who are to be guided by the objectives should have an active part in their origin and revision, because the objectives should be formulated as a result of a concerted effort to select the best of all the ideas of all the persons concerned.

10. In addition to constant evaluation, objectives should be revised as needed.

Developments in the fields of technology, psychology, teaching, and learning should have effect upon the objectives.

CRITERION II

The teaching field should be characterized by breadth although practical teaching situations demand limited specialization.

A high degree of specialization is not desirable because of the comprehensive nature of industrial arts. However, the range of knowledges and skills in industrial arts is so great that it is impracticable to give full coverage to all major areas of industrial arts.

Limitations on space and equipment seemed to handicap some schools in establishing a broad program, but each school observed had exercised some method of overcoming these difficulties. Enrollments and the space problem had been dealt with by the careful scheduling and efficient organization and management of equipment, materials, and unique methods of student management in the organization. With respect to breadth, certain schools had provided some general-shop type of offerings to encompass larger areas of industrial arts.

Provision for specialization was limited and seemed to have less possibilities due to predominant emphasis given certain few areas of industrial arts. In other words, choice of specialization seemed to have been given less consideration than any other feature of the criterion; furthermore, the greatest limitation seemed to be on the quantity of equipment and space provided.

One school surveyed gave equal emphasis to a given number of industrial arts areas. This would seem to be in line with the basic concepts of industrial arts and might afford a worthwhile goal toward which

others might work. Nevertheless, a *specified number* of areas might be questioned.

The specifications needed to satisfy this criterion follow:

1. The teaching-field preparation should be broad enough to encompass many of the basic learning experiences in the major areas of industrial arts.

While it is recognized that practical limitations forced on schools make it necessary to concentrate attention on a few areas, the teacher ought to see these always as examples of a much broader program of understandings.

2. Although specialization in the teaching-field preparation is necessary for practical reasons, it should be allowed in terms of minimum needs.

Some industrial-arts areas demand more time than others for adequate preparation of prospective teachers. Others may warrant more time because of the basis of understanding they afford for still other areas of industrial arts.

3. Skills as well as knowledges should have emphasis in the teaching-field preparation.

4. In the laboratory classes of field preparation, shop organization and management should be of superior rank.

Teachers will turn naturally to examples afforded them while in college. These examples, therefore, should have been adequate. Some participation in shop organization in the *general shop* should be required.

5. Drawing, design, mathematics, and science are essential to adequate field preparation.

As is the case in other teaching fields, industrial arts requires supporting areas of study. All such subjects should be related to major-field understandings and should have some application and practice in field preparation.

CRITERION III

Professional education should be based on a careful analysis of industrial-arts teachers' needs and should be broad enough to provide prospective teachers with the breadth of vision needed by all teachers.

Professional courses of the four-year curriculum should not be offered in isolation from each other, but should be planned to effectively contribute, in sequential order, to the total education of prospective teachers.

This criterion would denounce the practice of merely specifying requirements in terms of semester-hour or term-hour credit. It would also indicate that the time allotment for offering professional education is so priceless that any overlapping is entirely inexcusable. Furthermore, there should be no excuse for "content of many education courses being the same, just a difference in titles". The minimum needs of a beginning

teacher are so great that careful consideration should be given to them, in order that all may be included in the four-year program.

Naturally, this requires more than the efforts of one department head. It would then seem desirable that *anyone* should point them out and get action started on remedial procedures. To establish a good program of professional education, all applicable resources of the school or college should be enlisted.

The specifications needed to satisfy this criterion follow:

1. Professional education should include that which is known about the nature of learning, of the learner, and of teaching.

Professional education makes use of the specific and applicable findings in psychology, sociology, and anthropology; it should provide an understanding of all forms of education wherever found. For example, one approach to the understanding of the nature of learning might be afforded through the clinic. Emotional drives, human relations, human growth and development are involved.

2. Professional education should give an understanding of the community and the role of the school in society.

A sound philosophy of education and of industrial arts is implied.

3. Professional education should give understanding of and practice in the common duties of a teacher as a participant in the administration of a secondary school.

Duties connected with the classroom, homeroom, recordkeeping for administrative purposes, extra-curricular assignments, group planning and sponsorship, and public relations are included.

4. Professional education should present the general techniques of class organization and instruction.

Organizing a class, launching a unit of work, presentation, participation, and maintenance of continued industry are suggestions.

5. Special methods should be taught by an industrial-arts specialist who has a good understanding of the specific professional techniques of industrial-arts teaching.

General methods should never be substituted for this phase of professional education. Laboratory demonstration might well implement this training, and it would be quite feasible to conduct a part of it in shops or drawing rooms. Shop layout, organization, and management should be a part of this specific education, and ample time for adequate accomplishment should be provided.

6. Observation and practice teaching should be required in accordance with the usual institutional regulations, the requirement being met when satisfactory accomplishment is attained.

Minimum requirements for practice teaching should be definitely outlined. Requirements may differ with individual students. While the

amount of academic credit or time allotted is not the measure of accomplishment, yet, certification requirements may specify minimum clock-hour or semester-hour credit.

CRITERION IV

The program should be organized in such a manner as to afford a high degree of continuity with respect to student development.

In the industrial-arts areas the program should be organized to permit the student to advance from the more basic operations to the less basic ones. In professional education the student should begin with the broad aspects of the teaching process and progress to those which are specific.

Program organization is the composite planning within all the areas of teacher education and involves the integration of general education, major-field preparation, and professional education into one effective curriculum. Although the specifications for this criterion generally set forth conditions for good organization, it is obvious that certain interpretations may be made.

It would seem desirable to justify organization to students and to point out the desirability of following the organized plan. From discussions with the department heads and directors, however, it was obvious that hard and fast rules regarding prerequisites were not in favor. It was pointed out that any student digressing from the organized plan should be led to see this always as a means of fortifying himself with basic understandings in order that the broader program not be slighted.

The specifications needed to satisfy this criterion follow:

1. Professional education should be built upon a sound base of general education.

2. Teaching-field preparation also should be based on general education and should be offered in quantity before professional education.

Teaching-field instruction is offered to best advantage all through the four-year curriculum. The offering should be made light during the first year as well as the last year, with general education being heavy during the first year and professional education being heavy during the last.

3. Learning experiences in special methods should be highly integrated with the learning experiences in observation and practice teaching.

There should be a close relationship between the content of the special-methods offering and practice teaching. To make both phases of the professional education most effective this organization is recommended.

CRITERION V

Methodology in industrial-arts teacher education should demonstrate the best that is known in teaching practice, but it should be specifically characterized by certain marked teaching methods.

It will be necessary to develop methodology in terms of professional needs. Within these limits the prospective teachers should be taught as they should later teach.

Specifications set up for this criterion were particularly designed to establish the "certain marked teaching methods". No attempt was made to specify *every type of method which could be applied* to industrial arts education, nor was it claimed that *all* marked teaching methods were covered.

The nature of industrial arts demands that certain methods and practices dominate the offering, e.g., it was pointed out that from 50 to 75 per cent of the total time in shop and drawing classes was devoted to project construction. This is evidence of the fact that certain particular methods have been found very strongly adaptable to the teaching of industrial arts.

The specifications needed to satisfy this criterion follow:

1. Kinesthetic learning should tend to characterize methodology.

Industrial arts has a great opportunity to develop the kinesthesia and the inherent student satisfactions which come as a result. Extensive use should be made of this opportunity.

2. The project method, as applied to industrial arts, should be a strong feature of the program.

The project method as applied to industrial arts involves the performance of useful jobs and the making of usable articles. Raw materials of industry are worked with the typical tools and supplies of industry; e.g., a student of industrial arts electricity might build a radio. The *radio* in this instance is the project. The project method, as applied to industrial arts, affords opportunity for extensive student participation in such activity.

3. The lecture-demonstration method as applied to industrial arts should be included in the program.

In the industrial-arts activities, the lecture-demonstration affords directed laboratory experience supervised by the instructor. This is a combination of demonstration, lecture-discussion, and directed laboratory experience.

4. Methodology should demonstrate effective cooperative planning.

Analysis is important in planning for industrial arts, and it should involve a combination of student and teacher effort. Teacher-prepared instructional materials of all kinds should represent the best of organization and planning.

5. Course-of-study materials (related informational and operational topics) should be organized for presentation by the unit method.

This gives direction to the course and provides for learning activities outside as well as inside the classroom. For presenting related informational and operational topics the *unit method* affords long-term

planning; e.g., the industrial-arts teacher of woodworking, at an appropriate time, might choose a *theme* or *unit* in *wood finishing*. In presenting the unit many topics might be covered, such as stains, sealers, fillers, varnishes, and lacquers. Although it might be impossible for each student to gain skills in all phases, the unit provides for many individual assignments and experiences, of which findings are made common knowledge.

CRITERION VI

Effectiveness of the teacher-education program of industrial arts should be continually evaluated in as objective a manner as possible. Periodically a more extensive study should be made of fundamental assumptions, principles, and plans.

Although several specifications were set up for this criterion, it became more and more obvious that the only allowable evaluation was that in terms of the stated objectives. If goals are attained according to the objectives, the program is meeting the purposes for which it was established. Consequently, if goals are not adequate, the objectives should be changed. It follows that any evaluative procedure will always point toward objectives and/or their attainment.

The specifications needed to satisfy this criterion follow:

1. The program should be evaluated continually in terms of the stated objectives.

2. The program should be evaluated continually by comparison. Comparison with the offerings and objectives of other institutions is effective. Check-lists and achievement tests are worthy of consideration.

3. The program should be evaluated continually by the product. This may be accomplished in two ways: (1) by use of the student's opinion, and (2) by ascertaining the student's later teaching success in the light of objectives.

4. The program should be evaluated continually by faculty and lay conferences.

This offers one of the best types of constant evaluation. It allows opportunity for awakening lay interest in the program and provides a most valuable means of keeping abreast of changing needs. These conferences should include local superintendents, principals, and teachers in secondary schools, especially those who employ graduates.

5. Periodically the whole list of stated and accepted objectives and the four-year program should be critically analyzed in terms of current needs.

This should be followed by corresponding modifications of the curriculum. There are several approaches to curriculum revision, and the staff should have a great deal to do with it, although expert counsel and direction, and lay support, will prove very valuable.

UNDERGRADUATE APPRENTICE TEACHING IN THE EDUCATION OF ELEMENTARY TEACHERS

by ELIOT BOYD GRAVES*

INTRODUCTION

The history of the professional education of teachers shows a consistent belief in the importance of student teaching in school situations that approximate or excel those in which the student will later work. This practice experience is customarily provided in campus or off-campus laboratory schools. The results of this procedure have not been wholly satisfactory. Full-time apprentice teaching in field situations has been conducted with prospective high school teachers with encouraging results. Internship programs on the graduate level offer further evidence of the virtues of field experience. The purpose of this study is to determine the value and feasibility of field experience on an undergraduate level for prospective elementary school teachers.

A consideration of the widespread dissatisfaction with teacher education, the needs and purposes of professional education in Virginia, and the existing situation at Mary Washington College seemed to indicate a need for developing a radically different plan for providing the practice experience within the professional curriculum. An experimental program of apprentice teaching in the field was undertaken. A record of the development of this program constitutes the basic data for this study. Between 1938 and 1947 there were 181 students who served apprenticeships in elementary schools in the field, of whom 67 were in the two-year course and 114 in the four-year course. Almost all of the statistical data are confined to the apprenticeship program with 114 students in the four-year professional curriculum between 1939 and 1947.

SOME HISTORICAL INFLUENCES PERTINENT TO THIS STUDY

Several historical influences were found to have significance for this study. A study of the history of teacher selection in the United States led to the conclusion that the plan of participation used in the apprenticeship program was in keeping with the gradual development of improved methods for selecting teaching candidates. A study of recent changes in educational theory and methodology indicated that the apprenticeship program was attempting to apply several of the newer views in educational philosophy and psychology. A study of the history of the practice school indicated that it is not meeting adequately many of the current needs in professional education, and that a changing educational philosophy may revise some basic concepts concerning its function. Pro-

* A.B. 1932, A.M. 1935, College of William and Mary; Ed.D. conferred November 11, 1947.

visions for student teaching were found to have been accompanied by many persistent problems, such as cost, artificiality, and articulation. The persistence of the problems in the face of varied attempts to solve them suggested a revision of the total pattern of provision for the practice experience. The development of provisions for field experience showed that in vocations other than teaching, effective use has been made of field situations to enable the learner to acquire the skills required by the work under conditions that are typical for the work. Programs of an apprenticeship type that have developed in education on the graduate level and for prospective high school teachers indicate that this type of pre-service education is appropriate for prospective elementary teachers. Only a few scattered attempts to establish such programs were found to have been made.

THE PROGRAM OF APPRENTICE TEACHING AT MARY WASHINGTON COLLEGE

The development of the apprenticeship program was influenced by the need in Virginia for field experience in teacher education and the existence of certain local conditions at Mary Washington College. The need for improvement developed from, and was intensified by, the state curriculum revision program and the changing emphases in educational philosophy and psychology. The philosophy of cooperation followed by the college influenced the total college program at several points. For example, the inclusion of field personnel in the process of selecting teaching candidates affected standards of selection within the institution, and provisions for field experience modified to some extent the pattern of course offerings in the elementary education curriculum. The policy of selecting field situations for apprentices involved cooperative procedures that differed from those commonly used in programs of student teaching. The geographical area included twenty counties and three cities. Fifty cooperating schools were used.

Additional significant characteristics of the program were the methods for inducting the apprentice into teaching activities, the apprentice's participation in community life while a resident in the community, the research project conducted by the apprentice while in the field, procedures for evaluating the apprentice's growth, and the provisions for employment after graduation.

THE APPRAISAL OF THE APPRENTICE TEACHING PROGRAM

The first method used for evaluation was to secure the reactions of the employers of former apprentice teachers concerning their success as beginning teachers. Another method used was to secure the judgments of teachers who had had apprentices concerning specific features of the program. A third procedure was to record the judgments of superin-

tendents of schools in whose school systems students had served apprenticeships. A fourth procedure was to estimate the degree to which the program applied principles and recommendations stated by authorities as guides for effective programs of professional education for teachers.

Some of the more significant findings were as follows:

1. The policy of the institution of exercising control over the field situation only through the selection of field situations was considered sound by those who participated in the program.

2. Public school personnel were willing to assume a responsibility for the professional education of prospective teachers.

3. Personal relations were believed to be of considerable importance in the selection of the field situation and in the success of the apprenticeship experience.

4. The policy of having apprentices determine to a large extent the sequence of teaching activities they undertake and how rapidly the activities are undertaken was believed to be sound.

5. A majority of employers considered the initial teaching success of former apprentices more successful than that of most beginning teachers.

6. The amount of work on the part of the participating teacher incident to having an apprentice varies with the apprentice.

7. Pupils, schools and school systems gain, rather than lose, as a result of having apprentice teachers.

8. Participating teachers tend to be satisfied with existing policies followed in the administration of the program.

9. The program implemented to a high degree most of the principles and recommendations stated by authorities on student teaching.

The average cost per apprentice teacher for the operation of the program, including the salary of the director, the expense of travel and the cost of room and board for apprentices while in the field, was approximately \$127.86.

The findings indicated a need for certain modifications in the administration of the program, including increased services to the field personnel on the part of the college faculty, greater emphasis upon the study of human growth and development during the student's preparation for apprenticeship, the use of more systematic evaluation procedures for effecting the continuous improvement of the program, and increased provisions for field experience during the first and second years of the college program.

Some of the advantages of the apprenticeship program were:

1. The opportunity for public school personnel to share the responsibility for the selection and professional education of prospective teachers.

2. The policy of the college exercising control over the cooperating schools only through the selection of field situations for apprentice teaching.

3. The provisions for effecting the transition from student to teacher through participating in activities and assuming responsibilities that are typical of those expected of members of the profession.
4. The large number of field situations available for apprentice teaching, so that the number of apprentices in any one school is small, and a participating teacher has only one apprentice at a time.
5. The emphasis upon the personal qualities of the prospective teacher and upon the human relationships between the apprentice and the participating teacher through the cooperative selection of field situations and apprentices.
6. The provision for adapting to the individual student's needs, abilities, and interests, the field situation, the sequence of teaching activities related to induction, and the rate of induction.
7. The participation of the apprentice in community life.
8. The variety of professional and cultural activities in which the apprentice engages.
9. The number and kinds of mutual services rendered by the apprentice and the field personnel.
10. The freedom of the apprentice from all campus responsibilities during the apprenticeship period.
11. The emphasis upon the frequent and informal conferences between the apprentice and the field personnel.
12. The employment opportunities of the apprentice and the local school system in which the apprenticeship is served.

RECOMMENDATIONS FOR INITIATING AND CONDUCTING AN APPRENTICE TEACHING PROGRAM

1. A favorable attitude on the part of the public school personnel toward participating in the professional education of prospective teachers is basic to the development of a program of apprentice teaching.
2. The total responsibility for the success of the program should be shared by the college, the field personnel, and the apprentice. The college should have primary responsibility for the on-campus instruction of the student, for the approval of the school systems, schools, and participating teachers included in the program, and for the arrangements in the community for the apprentice's room and board. The college and the field personnel should have joint responsibility for the selection of the apprentice, the supervision of the apprentice's work, and the evaluation of the apprentice's work. The field personnel should have the primary responsibility for the approval of the apprentice, the instructional program in the field situation, and the professional activities of the apprentice. The college, the field personnel, and the apprentice share the responsibility for the selection of the field situation.
3. The program should include only field situations that have super-

visory services in addition to those provided by the participating teacher and the principal. The best situation is one in which the services of a general elementary supervisor are available.

4. The college should provide adequate staff for the administration of the program. The number of apprentice teachers per staff member should not exceed twenty-five per year. Each staff member usually will require an automobile for taking students to visit field situations and for making regular visits to apprentices.

5. Course offerings in the college program should be arranged so that the student during his senior year will have a full semester for the apprenticeship experience, free from all campus responsibilities.

6. The selection of students for professional education should be a continuous and cooperative process, including all members of the college personnel whose knowledge of the student qualifies them to participate. Standards of selection must be high enough to assure the student's subsequent approval for apprenticeship by the field personnel.

7. Students should be taken by the college staff to visit a variety of field situations during the first three years of the college program. In addition, short periods of field experience of three or four days' duration should be interspersed among the courses required during the first three years.

8. The college program should provide opportunities for, and guidance in, the personal and social development of students before and during their apprenticeship.

9. Provisions for the study of human growth and development should be made by the college for all prospective apprentices. This should include opportunities of working with children outside of school.

10. The college staff should be well informed concerning the needs, capacities, talents, and interests of students, and the characteristics of the various field situations, such as personnel, instructional program, staff morale, pupils, community conditions, and policies of administrative officers.

11. The participation of the student in the selection of a field situation for his apprenticeship is essential. He should have a choice of several field situations. Guidance may be given by restricting his choice to those situations that show promise of providing the kinds of experience from which he will profit most.

12. The field personnel should be listed in the college catalogue as part of the instructional staff of the institution.

13. There should be no financial arrangement between the college and the field personnel. Mutual service constitutes the sole motive for the functioning of the program. Offers by school systems to pay for having apprentices should be declined, and teachers who expect additional salary from participating in the program should not be included.

14. Only the better instructional situations should be included in the program. Within this limitation, the college staff should seek diverse field situations that vary as to size of school, type of community, geographical location, instructional program, administrative policy, and the like. A tendency to use the same schools and participating teachers for long periods should be avoided. Rather, there should be a constant sensitivity to teachers and groups of teachers who are growing in the profession so that invitations to participate may be extended to superior schools and teachers as they emerge.
15. The quality of personal relationships between the teacher and the pupils, parents, and other co-workers in the cooperative school are fundamental in the selection of participating teachers.
16. The geographical area included by the program should be large enough to include the necessary number and variety of appropriate field situations. If the most distant cooperating school is not more than one hundred miles from the college, one-day field visits with students may be made without undue difficulty.
17. The student should be expected to make an investigation of some local educational problem while serving his apprenticeship. The field personnel, the apprentice, and the college staff should cooperate in the selection of the problem. Services by qualified members of the college faculty should be available to the apprentice for guiding this work.
18. The college should be responsible for making the arrangements for room and board for the apprentice in the community in which the apprenticeship is served. Control by the college in this matter helps to assure the kind of accommodations that are conducive to the apprentice's participation in community life.
19. Supervision by the college staff of the apprentice's activities in the field situation should include the requirement that the apprentice spend not less than one-half of the total number of week-ends in the community.
20. Regular supervisory visits should be made by a member of the college staff to the apprentice at work. These should average at least one every two weeks. Additional visits should be made as needs arise.
21. As a rule, the field personnel and the apprentice should know when to expect supervisory visits by members of the college staff. Opportunities for conferences should be a characteristic feature of these visits.
22. The college staff should share with the field personnel all written reports made to them by the apprentice, and the field personnel should share with the college staff all data on their evaluation of the apprentice's growth.
23. The making of written statements by the participating teacher concerning the apprentice's work should be voluntary. In no case should

the rate, score, or grade the apprentice, since this is contrary to the function of the participating teacher and prevents the development of desirable human relationships between participating teacher and apprentice.

24. The principal of the cooperating school should make a written statement to the college concerning the apprentice's qualifications for employment.

25. The apprentice should share the responsibility for determining the sequence of teaching activities related to induction and the rate at which such activities are undertaken. The policy of having the apprentice ask for teaching activities as he feels ready to undertake them makes allowances for individual differences in readiness and ability, and is preferable to the use of a list of activities prepared by the college staff,

26. The field personnel should be asked to include the apprentice in all appropriate activities of the kind normally engaged in by teachers in service, such as attending meetings, serving on committees, having conferences with parents, and participating in civic programs.

27. Prospective apprentices should have opportunities for contacts with apprentices and former apprentices through conferences and discussion groups held on the campus and in the field.

28. The college staff and field personnel should cooperatively and continuously evaluate the apprenticeship program to the end that the total program of teacher education may be improved.

THE AMERICAN KINDERGARTEN IN TRANSITION

by MARY ELLEN HELTIBRIDGE*

THE PROBLEM

The purpose of this study was to trace the history of the American kindergarten in transition, from an imported German system built on Froebelian philosophy, to an indigenous American body of philosophy and practice. The time of this transitory period is not delineated sharply, but covers approximately the years between 1876 and 1920. This was not intended as a complete history of the kindergarten in the United States, but as a study of the various factors operating within the American atmosphere which united in compelling the kindergarten to rid itself of some of its foreign impedimenta. These factors were American environmental trends such as Nationalism; changes in the character of immigration which made city slums a ripe field for the development of a practical type of kindergarten; the "emancipation" of women, and their increased opportunities for higher education. Since most of the leaders and teachers of the kindergarten were women, and other opportunities for the employment of women were limited, competition forced an elevation of the academic requirements for kindergarten teachers.

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The kindergarten in the United States was rooted in German philosophy, program, and personnel; and with one notable exception, the kindergartens which were recorded as having been begun by 1870 were founded by German people. The one exception was the kindergarten started in Boston in 1860 by Elizabeth Peabody, the great American apostle of Froebelianism. Although she was an American, yet she was, perhaps more than any one other person, responsible for perpetuating the German spirit in the kindergarten in this country. She maintained a critical and sometimes caustic attitude toward anyone who presumed to differ in any way from the pure Froebelian doctrine and practice.

In 1876, a Froebelian kindergarten was established as a demonstration school on the grounds of the Philadelphia Centennial Exhibition, where it was the object of much favorable comment.

At the same time, and on the same grounds, Emily Coe demonstrated a set of equipment which she had originated and designed to use in a type of kindergarten known as The American Kindergarten. Emily Coe insisted that the kindergarten she represented was Froebelian in its foundation. She had made certain additions, such as reading and writing.

* B.E. in Education 1927, Temple University; A.M. in Education 1943, The George Washington University; Ed.D. conferred November 11, 1947.

ing, and had aimed to have the whole procedure fit the American way of life. Later in the magazines they edited, both Elizabeth Peabody and William Hailman soundly denounced Emily Coe as a pretender and imposter. Other than that, Emily Coe appears to have been given no recognition by the main body of kindergarteners, but for a period of at least twelve years, beginning in 1878, she edited a magazine called *The American Kindergarten Magazine*.

By her zeal in trying to preserve the "genuine kindergarten" from "pretenders" such as Emily Coe, Elizabeth Peabody put the American Froebelian kindergarten on the defensive and stifled any effort at open-mindedness. This defensive position served to indoctrinate the pioneer kindergarteners against a desire to seek for any further revelation of educational truth.

The American Froebel Union, which was the first organization of American kindergarten teachers, and *The Kindergarten Messenger*, the first kindergarten magazine in this country, both were sponsored by Elizabeth Peabody. Both had as their announced purpose the protection of the "true" kindergarten. Several years after its inception, because of financial difficulties, *The Kindergarten Messenger* found it convenient to merge forces with the *New England Journal of Education*. This arrangement was soon terminated, because the editor of the latter permitted Miss Coe to advertise her American Kindergarten and Training School in his journal. This prompted Elizabeth Peabody to protest by resigning from the editorial staff and by withdrawing *The Kindergarten Messenger* from the merger. Events such as these set the stage for the beginning of a controversy over kindergarten procedure.

In 1876 and the years immediately following, the controversy was largely a one-sided affair with the preponderance of the vocalization coming from Elizabeth Peabody. Apparently the only resistance Emily Coe offered was that of determined persistence in pursuing her work with *The American Kindergarten*. The real struggle developed later between Conservatives such as Elizabeth Peabody and Susan Blow, and Liberals such as Patty Hill. The Conservatives, as defenders of the Froebelian faith, held that the Froebelian system was complete and perfect, and should be preserved in its entirety. They strove to maintain the kindergarten in the United States as a faithful copy of the German original. They believed that Froebel's kindergarten was a complete and perfect system of education for young children, timeless in its scope and universal in its application.

Opposing this group were the Liberals, who were in sympathetic accord with a part of the Froebelian doctrines, but who were convinced that the system should be in a state of continued evolution to keep it compatible with the best of current educational thinking. The Liberals wished to interpret Froebel in the light of an American educational and

environmental background, and to alter and adapt the Froebelian school to conform with American life and thought. The advent of the Child Study Movement about 1890 served to sharpen the issue into a real controversy.

Meanwhile, there were certain factors outside the kindergarten, but within the American environment, which operated to aid the cause of the Liberals. The opening of the West, with its freedom from the traditions which prevailed in the East, permitted a type of kindergarten in California which seemed more sensitive to its environment than the kindergartens of the East. In city slums a very practical type of kindergarten flourished. These appear to have been the first in America to yield to the pressure of environment and to concern themselves with such practical issues as child health, individual personality problems, and general community welfare.

The increased availability of educational opportunities for women gradually resulted in higher academic standards for kindergarten teachers. This raising of standards seems to have predisposed the teachers to view the traditional Froebelian philosophy with a critical mind, and to cast their lot with the Liberal side of the controversy.

About 1890, when the kindergarten was fairly well established in the United States, the Child Study Movement was beginning to focus attention away from established systems and toward the child, his processes of development, and his needs and activities. It became a decisive element in forcing the kindergarten in this country to evaluate carefully its position with respect to Froebelianism, and was instrumental in compelling the kindergarten to modify its philosophy and much of its equipment.

As a result of the findings of a series of studies of children, G. Stanley Hall and William Burnham, who were members of the Child Study Movement, began to direct a number of criticisms against the policies and practices of the kindergarten. These criticisms widened the breach between the Conservatives and the Liberals. The former reacted by redeclarations of the worth of the Froebelian system and did what they could to defend it. The Liberals assumed the position that it was quite in order to subject the Froebelian philosophy, system, and equipment to a critical reevaluation. G. Stanley Hall persistently criticised the system in general, and William Burnham, with almost equal persistence, condemned its current health practices. These criticisms were frequently adverse, but they were destructive in order to gain constructive results. Patty Hill of Teachers College, Columbia University, was the leader of the Liberals who saw constructive value in these criticisms. Through her courage, her position, and her leadership, there came a reconstructed kindergarten.

During the period which covered the turn of the century, changes

began to be noticed in basic kindergarten philosophy. The German system, by 1900, was beginning to be superseded by the American child. Froebelian Gifts and Occupations became creative play material which were supplemented by dolls, nature material, and other play accessories. Free play took the place of directed play. There was a slow decline in the use of Froebelian apparatus and a developing body of larger and more varied educational play materials. Music and art were becoming creative rather than dogmatic and imitative. In the first two decades of the twentieth century, a new concept of child health was evolving. Laws of physical growth and development were beginning to take on an aspect of importance, and school buildings began to more clearly conform to the laws of physical growth. Relationship with the primary school became more cooperative.

But while these changes within the kindergarten were in the process of actual change, there was going on simultaneously, an attempt to settle the controversy between the Liberals and Progressives. During the years just preceding and following the turn of the century, the defensive cudgels once wielded by Elizabeth Peabody were taken up by Susan Blow, who in 1872 or '73, with William T. Harris, established the first permanent public school kindergarten in the United States. During the period in which the kindergarten was under fire of adverse criticism, Susan Blow wrote a book entitled *Educational Issues in the Kindergarten* to clarify the Froebelian position from the Conservative point of view. Nina Vandewalker, a Liberal, wrote a history, *The Kindergarten in American Education*, which was to acquaint younger teachers with the background of events which led to the controversy.

However, both Blow and Vandewalker wrote as individuals, and a need was felt for the strength of some unified action. Accordingly, in 1910, the International Kindergarten Union appointed a committee of nineteen of its members who were charged to study the matter and formulate a statement of principles to which all American kindergarten teachers could subscribe. After about ten years of deliberation and study, this Committee of Nineteen, as it was popularly called, came to the conclusion that it was impossible for it to meet its major commission. A unified report was impossible because there was not enough unified thinking among the members of the committee. A compromise was reached by the presentation of three separate reports. One portrayed the Conservative side, one the Liberal, and one the Conservative-Liberal position. The Conservatives appear to have remained loyal to Froebel until the end of their days. The Liberals progressed from stage to stage until at last, by 1920, the American kindergarten was free to make its own philosophy and formulate its own set of practices.

Two later influences on the kindergarten were the Montessori Method and the Nursery School Movement. The first of these came after 1910

and although it was accepted by some, most educators viewed it with caution, probably because its didactic material somewhat resembled the Froebelian equipment which was then being discarded. One good residue of this method was an improved type of toy for both home and school use.

The Nursery School Movement, which began about 1920, highlighted the value of close cooperation between home and school; brought an increased respect for the value of scientific observations and records of child development; and put increased emphasis on parent education.

CONCLUSIONS

The conclusions reached by this study are as follows:

1. The period of the American kindergarten in transition covered approximately, the years between 1876 and 1920.
2. The transition involved a gradual departure from an imported German system of philosophy, practice, and equipment, to an Americanized institution which had won for itself the right to formulate its own philosophy, evolve its own techniques, and create its own body of materials. It was a transition from a system-centered to a child-centered institution.
3. The struggles of the transition were centered in a controversy between two opposing groups of kindergarten leaders. The Conservatives desired to preserve the Froebelian system intact, and the Liberals were convinced that it should be modified to suit the American environment and to conform with the best of current educational thinking.
4. Several personalities emerged as leaders during the years of transition. The first of these was Elizabeth Peabody, who by her zealous fight to protect the pure Froebelian kindergarten dissipated its strength by putting it in a position of defense. Moreover, her attitude has been judged to be responsible for indoctrinating the pioneer leaders to such a degree that they fought to resist any change or improvement in the original system. Susan Blow seconded Elizabeth Peabody's fight.
5. Environmental, social, and educational forces in America conspired to aid the cause of the Liberals. Perhaps the greatest of these forces was the Child Study Movement, championed by G. Stanley Hall, and turned into practical application in the kindergarten by Patty Hill.
6. The controversy between the Conservatives and Liberals was never settled. It gradually dissolved with the passing of the years, partly because eventually death claimed the Conservatives, and partly because all the forces of the American environment operated to compel the kindergarten to more nearly conform to the pattern of American educational thinking.

CRITERIA OF A GOOD PHYSICAL EDUCATION PROGRAM FOR BOYS IN THE SENIOR HIGH SCHOOL

by DONALD MINNEGAN *

The purpose of this study is to develop a valid set of criteria for a good physical education program for boys in senior high schools.

It was attempted because discussions with physical educators and the writer's observations indicated that often those concerned with physical education have discussed good practices in general terms but in many instances have not converted them into instructional procedures. The writer, therefore, felt that a search for acceptable criteria would be worth while. He felt that such study might assist high school physical directors and principals (1) in defining a good program, (2) in evaluating a program, and (3) in translating objectives into actual practice. It appeared that a set of criteria, even though incomplete and relatively undeveloped, would be helpful.

In the actual formulation of the criteria, the following steps were taken.

1. The literature was examined for whatever evidence it could yield concerning criteria of a good program. A tentative set of criteria was formulated and discussed with several students of physical education. On the basis of their criticisms the first draft was revised.

2. The revised set of criteria was submitted to a larger jury of twenty-one experts selected because of their knowledge, experience, and recognized achievement in the field of education and of physical education. Eighteen were experts in physical education. This group included: three state directors of physical education, three directors of large city systems, two specialists of the United States Office of Education, six professors of physical education from outstanding universities, two supervisors of physical education from outstanding universities, two supervisors of the Veterans Administration program, one county supervisor of physical education, and one Teachers College director of physical education. There were three general educators including one state school supervisor, one county superintendent, and one dean of the school of education of a leading university. On the basis of the criticisms of this jury the criteria were revised.

3. It seemed reasonable to expect that if these criteria were valid and practical, they would find expression in the practices of those schools which had superior physical education programs. A checklist was constructed of practices one might expect if the criteria were put into practice.

These were distributed to principals and directors scattered throughout the forty-eight states of the Union. All schools concerned had been

* J.P.E. 1927, Springfield College; A.M. 1932, New York University; Ed.D. conferred November 11, 1947.

selected by the state supervisors of physical education or a designated state supervisor, as schools with superior physical education programs. It was found that many of these criteria were in common use, indeed the majority were applied to some degree but some were not.

This nationwide survey of school practices in 114 schools with superior programs revealed the following general weaknesses and strengths.

General weaknesses in reference to Criterion One on objectives included inadequate provisions for adjustments in terms of: pupil needs, foundation sciences, community study, cooperative planning, provisions for written statements, interpretation, and restatement of objectives.

School practice showed reasonable strength in terms of: educational philosophy, attention to distinctive and general objectives, recognition of the pupil point of view, and the safety and protection program.

In reference to Criterion Two on program, school practices seemed to be rather weak in provisions for: individual needs of all pupils; needs of the social order; positive approach to curriculum planning; selection of vigorous activities; selection of activities affording many opportunities for adjustment; activities for adult recreational adaptation of activities according to pupil needs; planning in terms of legal facts; cooperative curriculum planning; organized, written courses of study; progression in activities; the newer club, remedial, and supplemental programs; related programs in pupil planning and discussion; re-evaluation and re-adjustment of the curriculum.

School practice was reasonably strong in reference to provision for: a diversified, balanced program; selection of activities according to general educational objectives, all-round contributions; individual and group interest; use in pupil extension free play time; stimulating pupil interest; traditional programs (class, intramural, varsity); and related programs in health and protection.

Criterion Three was concerned with leadership. Leadership practices which tended to be weak were those concerned with: preparation of teacher in foundational sciences, problem solving, demonstration of basic functions, use of supplemental leadership for mass program, and leadership opportunities for large numbers.

School practice showed a reasonable degree of development in the following fields: selection of teachers with good all-round qualifications, selection in terms of special qualities needed for physical education—general educational background, selection in terms of specific job technical training growth on the job, use of supplemental leadership for skilled boys, number of leadership opportunities, and knowledge and use of special types of leadership.

In reference to Criterion Four, administrative practices which tended to be weak were the principals' interpretations of community factors, equalization of resources, and provisions for facilities.

Administration practices which showed a reasonable degree of development were in the principals' understanding of the program, understandings with the physical director, provisions for democratic planning, provisions for the teachers' working conditions, effective utilization of resources, development of a financial program, provisions for satisfying healthful surroundings, supervision of the program, and public-relations programs.

The findings related to Criterion Five on evaluation differed considerably from the findings related to the other four criteria. In practically no area did the school practices show strong support of the kind of practice one would expect if Criterion Five were in operation.

Following the comparison of practices in the schools with the practices one would expect to find if the criteria were applied, some adjustments were made which resulted in the revision and final statement of the criteria of a good physical education program.

The final revision of the criteria took into consideration all of the foregoing factors. In some cases, consideration of all the evidence indicated need for a clarification of detail. This was illustrated in the role of supervision in administration. The survey of practices in good programs revealed disappointing results in respect to evaluation. On further consideration, it was felt that this may have been partly due to lack of sufficient clarity in the statement of the criterion. Because of this, considerable revision was made in the wording of the criterion and specifications on evaluation.

The criteria as they were finally formulated follow. The specifications needed to satisfy these criteria are developed in detail in the dissertation, but omitted from the summary for the sake of brevity.

CRITERION ONE—OBJECTIVES

The program should be based on fundamental objectives which are clearly stated, suited to the needs of students, agreed upon by those responsible for the program, and understood by all concerned.

This criterion is the guiding influence of a good program because the formulation of objectives must precede and control all subsequent planning and action for pupil welfare. Unfortunately, differences of opinion among leaders in the profession have led to confusion concerning objectives. This confusion often extends to, and handicaps, those responsible for school programs and those participating in them. A program is good only so far as it indicates the worth while changes it is expected to produce in individuals, and only so far as it actually produces them.

CRITERION TWO—PROGRAM

The activities for the program should be selected, adapted, and organized in an effective plan which provides optimum opportunities for the growth and development of all pupils in terms of accepted objectives.

Since the development and adjustment of the individual depend upon the interaction of the growing person and the environment in which he grows, it is extremely important that learning experiences be selected and conducted accordingly. Unfortunately, in many schools the activities bear little relation to the stated objectives.

CRITERION THREE—LEADERSHIP

Competent leadership should be provided.

Providing pupils with well-planned opportunities for learning through physical education activities is a complex function. It is very difficult to find pupil needs and wants and to provide effectively for them. The problems which arise in this process of understanding pupils and helping pupils need the attention of one who is an educator in the broadest sense and also a competent specialist in physical education. Such leadership is probably the most essential provision needed to secure for all children the important, inherent values in physical education opportunities. Physical education, when properly taught, requires a teacher with unusual general and special training. Too often the teacher is selected on the basis of coaching ability and interest alone; sometimes anyone available is assigned the task.

CRITERION FOUR—ADMINISTRATION

The total school administration should be organized and operated in such a way that it provides the essential conditions and opportunities favorable to the attainment of physical education objectives for all pupils.

The objectives, the activities, and the leadership of a physical education program can all be good and yet the program can fail because administration fails to provide the means to achieve success. Administration should provide adequate time, good facilities, sufficient equipment and supplies. The administrator ought to know what physical education is and what it ought to accomplish if he is to administer a program successfully. This is important because physical education needs special facilities, special equipment, special classification of pupils; also the activities are diversified and the need for protective precautions is important.

CRITERION FIVE—EVALUATION

There should be a sound, continuous program of measurement and evaluation which reveals the extent to which the defined objectives are met. It should indicate clearly (1) the degree to which individuals are attaining defined objectives, (2) the efficiency of the learning process provided for attaining objectives, (3) the adjustments which should be made in the process to provide better learning opportunities for youth.

All schools should have a plan which reveals the success of the program. Most physical education programs have little pertinent information about the status of individual and group traits, needs, and wants. Most of them have inadequate information about the effectiveness of their present practices for helping individuals in terms of individual needs and wants. Many schools have not analyzed the possibilities in better provisions to meet pupil needs. In most schools there is little accurate information concerning what progress has been made in terms of stated objectives and what remains to be done in order to attain them.

All of the specifications on evaluation will, of course, not apply to every situation. The total list is intended to serve as a resource from which appropriate selection may be made.

Criteria themselves, while determinants of practice, do not necessarily make good practices. It is easy to assume that if a school does a little the criterion is met. Therefore, a list of practices resulting from criterion is usually of much more use to the average principal or physical director in evaluating his program. Such a checklist based on the final revision of the criteria was formulated.

The instrument devised is a checklist and not a rating scale. No norms and no weighting of items have been attempted. Although the list is incomplete and relatively speaking in an early stage of development, it is hoped that it will be useful to principals and teachers in the process of self-evaluation, which will result in the use of better practices leading to better learning opportunities for all pupils.

AN APPROACH TO THE DEVELOPMENT OF A FUNCTIONAL GENERAL EDUCATION PROGRAM IN MARYLAND

By JAMES ERNEST SPITZNAS •

Until 1945 twenty of the twenty-three counties in Maryland had, in effect, an eleven-grade school system. Three of the counties and Baltimore City provided twelve grades of schooling. In 1945 the General Assembly of the state enacted legislation which made it possible and desirable for all counties to effect a twelve-grade system. Immediately, in line with the possibilities provided in this legislation, the twenty counties made plans to effect, over a maximum period of six years, a 6-3-3 or 6-6 arrangement of grades.

It was evident at once that a twelve-grade system could not be substituted for an eleven-grade arrangement merely by inserting a grade somewhere along the twelve-grade range. It had become necessary, rather, to rethink the whole sequence of experiences, grades 1 to 12, which would constitute the curriculum of the schools. The General Assembly in enacting this legislation had really necessitated a state-wide curriculum development program which posed this problem: "*In view of the widely varying conditions and convictions about education which obtain throughout the state, how may local, county, and state personnel work together in using the instrument of curriculum development to effect a truly functional general education program in the schools of Maryland?*" This study is a description of how guiding considerations and acceptable patterns of procedure were evolved.

PRELIMINARY STEPS

First steps in the direction of working out answers to this problem were taken in 1945 when the State Superintendent of Schools appointed an Exploratory Committee to recommend procedures and designs. This Committee proposed an over-all framework for the curriculum entitled "The Individual and His Educational Program". In the summer of 1945 selected teachers and supervisors from the various counties of the state met in a curriculum workshop at State Teachers College, Towson, to explore the implications of this framework for specific courses of study and subject offerings. Those in attendance were divided into subject groups and each group projected sequences of units or topics designed to represent the nature and range of that subject from grades 1 to 12. The value of this work lay in its strengthening of the conception of the curriculum as a continuity. A separate committee set forth in a bulletin entitled "Experimental Practices" certain possibilities

• Ph.B. 1915, A.M. 1922, Dickinson College; A.M. in Education 1928, Columbia University; Ed.D. conferred November 11, 1947.

in the way of a core or unified experiences approach to curriculum development.

Since there was a very strong feeling that an emergency need existed on the junior high school level, the Exploratory Committee next devoted itself to studying the possibilities in resource units. In preparation for the workshop of 1946, the Committee suggested thirty-two possible units and asked the county superintendents to select by vote the ten which they preferred to have developed first. The following ten were selected and developed as resources from which the teacher might draw purposes, content, and activities suitable for use in grades seven, eight, or nine: (1) Relating Our Land and Our Resources to Our History; (2) Conserving Our Natural Resources; (3) Maryland, America in Miniature; (4) Guarding Against Accident and Disease; (5) Keeping Physically Fit; (6) Learning to Live with Others; (7) Our Shrinking World; (8) Our Environment Shaping our Lives; (9) Seeking Fellowship with the Americas, North and South; (10) Exploring My Educational Opportunities.

THE SUPERVISOR OF CURRICULUM

In the interim between the workshops of 1945 and 1946 the State Superintendent of Schools appointed the writer to serve as State Supervisor of Curriculum. The Supervisor immediately formulated as his major objective the furtherance of the conception of the curriculum as a continuity and a unity. The Supervisor believed that the sense of continuity had been weakened in 1946 when attention was given exclusively to resource units for the junior high school. He felt also that those primarily responsible for the direction which curriculum development should take must begin to build the sense of unity in the program. That is, they must begin to enlist in the purposing and planning phases all interested parties—teachers, supervisors, superintendents, principals, members of the staffs of teacher-training institutions, and parents and lay people generally.

The Supervisor of Curriculum first revised Chart 1, "The Individual and His Educational Program", in such manner as to make it capable of supporting a program of unified experiences as well as a program organized by traditional subject fields. Then, to discover or evolve acceptable procedural patterns and sound practices, he decided to work with a rather narrow segment of the curriculum and a relatively few teachers. The fifty-five teachers eventually selected represented all counties and therefore brought into the program in their proper relationships their principals, supervisors, and superintendents. The segment of the curriculum ultimately agreed upon comprehended consumer education, recreation, conservation, and safety. The Supervisor of Curriculum next promoted the selection of a Curriculum Planning and

Advisory Committee which included among its members personnel from the Department of Education of the State of Maryland and county representatives but was made predominantly of teachers from teacher training institutions.

In meetings of the Curriculum Planning and Advisory Committee and in county meetings which included the Superintendent, his supervisory staff, the teachers in the experimental program, and, on occasion, the Assistant Director of Education and Research of the Natural Resources Board, certain guiding considerations for curriculum development were agreed upon and the consequent interrelationships among local, county, and state personnel worked out. In addition, the titles for the sequences of enterprises, grades 1 to 12, in the four fields mentioned were determined, methods of evaluation formulated, and specific steps in the program of curriculum development projected.

GUIDING CONSIDERATIONS

The guiding considerations agreed upon may be stated as follows:

1. The curriculum development program is only one resource among many which the state possesses for the creation of a functional general education program.

2. Our conception of the nature and method of the general education program which is the end we seek must determine the nature and method of all means we employ for the realization of this end—curriculum development, supervision, guidance, plant construction, organization and administration of the school, and equipment and supplies.

3. We conceive the general education program, which is the end we seek, as one which is (a) related directly and specifically to the personal-social needs of boys and girls, (b) diagnostic in that it gives boys and girls maximum opportunity to use tests, surveys, and examinations to discover the precise nature of their own personal-social needs, (c) co-operative in that it gives all those concerned in the program, including adults, opportunity to purpose, plan, execute, and evaluate, (d) a "doing" program in that the pupils engage in a significant enterprise designed to reconstruct a situation or to improve themselves with respect to the situation, (e) integrative in that it gives maximum opportunity to boys and girls to employ arts and sciences, facts and skills, as these are needed for the successful prosecution of the enterprise, (f) discriminative or critical in that it requires pupils to evaluate performances and products constantly, that is, to compare with model or desired performances and products and make suggested improvements, and (g) unified or synthesized in that the characteristics mentioned in the foregoing are inextricably interrelated in one ongoing process, not isolated as steps in a formal or mechanical procedure.

4. Cultural, economic, political, and educational communities of in-

terest are state and national, not to say global, in their scope. All these processes are, therefore, legitimately the concern of the state as well as of the county and the locality.

5. State and national agencies may know personal-social needs in terms of amounts, ranges, and averages but only the teacher and her close co-workers can know the precise needs of these particular boys and girls. All state and national agencies have their test, educationally, in relationship to their effect upon this teacher and her immediate co-workers. The functional general education program which is the end we seek must be developed in the thinking and behaving of the teacher. The curriculum development program used as a means must be essentially an in-service teacher training program.

6. The written part of the curriculum will consist largely of the teacher's own reports of relative successes and failures in creating the kind of educative process we desire. This makes the program of curriculum development the instrument of teacher training and puts the premium on the teacher's initiative, resourcefulness, and inventiveness.

These guiding considerations suggested that the state-wide curriculum development program should be used as (1) the medium of cooperative endeavor in which (a) specialists in the fields of individual organic growth and development and in the cultural processes demonstrate the relationship of their specialties to learning situations, (b) supervisors serve as liaison personnel to assure that specialized knowledge into terms usable by the teacher and her pupils, and (c) teachers endeavor to move learning enterprises in the direction of abiding and widely applicable significance as expressed by the specialists; (2) the means of furthering and strengthening the child study program in the state. (This program now being used most extensively over the state illustrates specifically how (1) is effected and implemented); (3) the means of moving the text-centered teacher toward greater effectiveness in the general education program; and (4) the means of developing local resourcefulness and breadth of participation.

ENTERPRISES AND THEIR DISTRIBUTION OVER THE STATE

There were altogether fifty-five teachers in the experimental program who were engaged with their pupils in working out successfully enterprises in the fields of safety, consumer education, recreation, and conservation. For the purposes of this study, it was decided to concentrate particularly on the twenty-one teachers engaged in the program of conservation education and to use their experiences to typify procedures which have significance for the whole curriculum development

program. The enterprises with which they worked and their respective locations by grade and by county are given in the following chart:

<i>Grade</i>	<i>Title of Enterprise</i>	<i>County</i>	<i>Section of State</i>
1	Making the Garden	Wicomico	Eastern Shore
1-6	Making and Improving the Garden	Garrett	Western
3	Using School Grounds for Beauty and Recreation	Calvert	Southern
4	School and Community Forests	Harford	Central
	Making Garden at the Lida Lee Tall School	Baltimore	Central
5	Building a Bird Sanctuary	Queen Anne's	Eastern Shore
	Developing the Audubon Trail	Baltimore	Central
6	Controlling Erosion in the Glen	Baltimore	Central
	Making the Nature Trail	Montgomery	Southern
	Preventing Erosion on a Hillside	Allegheny	Western
	Conserving the Soil	Allegheny	Western
7	Fishing for Food and for Sport	Somerset	Eastern Shore
		Worcester	Eastern Shore
8	Hunting and Trapping Today and Yesterday	Dorchester	Eastern Shore
	Planning the Ideal Community	Caroline	Eastern Shore
	Developing Conservation Consciousness	Frederick	Western
9	Controlling Animal and Insect Pests	Dorchester	Eastern Shore
		Kent	Eastern Shore
10	Balancing Men and Resources	Howard	Central
11	Planning Regionally	Baltimore	Central
12	Pioneering in the Management of Resources	Talbot	Eastern Shore

SPECIFIC PROCEDURES

The steps taken by these twenty-one teachers in seeking to create the desired general education program from the theoretical specifications may be distinguished as follows:

1. They considered with the State Supervisor of Curriculum, the County Superintendent, and his supervisory staff the nature and method of the desired general education program.
2. They determined the title of the enterprise which they would use.
3. They explored valid purposes and resources.
4. They invited the critical evaluation of their supervisors, both county and state.
5. They planned and prosecuted the enterprises cooperatively with their pupils, parents, and specialists in the field of conservation.
6. They attended a general meeting at Towson on March 10, 1947, at which time they reported progress to date, exchanged views with the other teachers in the field, and invited the critical judgment of the consultants who were present.
7. In three regions, they sponsored demonstration-critique meetings.

Superintendents, principals, and supervisors from the area and from the State Department of Education were present.

8. They attended a three-week summer workshop at State Teachers College, Towson, and prepared a bulletin on "Conservation in Maryland's General Education Program". They offered the bulletin to the teachers of Maryland not as a prescription of content or of grade placement but merely as a contribution to our thinking about the nature and method of the general education program desired.

EVALUATIONS AND CONCLUSIONS

The detailed reports of the twenty-one teachers illustrate very effectively how evaluation operated integrally throughout the whole of the enterprises. The pupils generally analyzed and evaluated the situations as they were when they approached them. They projected the specifics of the situations as they would like to have them and they measured their progress toward the desired situations. This procedure was generally true of the enterprises as a whole as well as of activities within the enterprises. For instance, before writing letters or holding interviews, the pupils formulated standards and judged their performances accordingly. In the same manner they selected and used garden tools and media for making murals. In preparation for making their flower garden, first graders planted petunia seed in a jar in their room. The seed came up but died after a short time. A florist was consulted. The soil was changed and other plans were used. Still the seed did not come up. The first graders tried to find why they failed. Children on all grade levels planned in detail in relationship to desired ends and took time periodically to record the effect of the measures which they were employing and to change them as the need indicated. In the same manner they appraised their strengths and weaknesses in participation in group action.

TEACHERS' APPRAISALS OF METHOD

ADVANTAGES

1. Unified and realistic
2. Related to the problems of living
3. Holds interest
4. Provides for individual differences
5. Related to community needs and conditions
6. Improves attendance
7. Makes use of child experience
8. Teaches democratic ways

DISADVANTAGES

1. Could not be managed by untrained or unskillful teacher
2. Requires initiative and broad knowledge
3. Difficult to give freedom to immature pupils
4. Requires special knowledge which teacher does not always possess
5. Requires more time for planning and the assembly of resources

TEACHERS' APPRAISALS OF THE ACQUISITION OF FACTS AND SKILLS BY THIS METHOD

FAVORABLE EXPERIENCES

1. Children have keener interest in learning facts and skills
2. Children see the need for learning certain facts and skills
3. Pupils are eager to acquire facts and skills to carry on activities
4. Facts and skills learned are more meaningful
5. Children have part in the selection of facts and skills
6. Facts and skills are learned in answer to expressed needs
7. Facts and skills are acquired for a purpose

QUALIFYING STATEMENTS

1. Additional periods necessary for systemization and drill
2. The better students would get the facts and skills by either method
3. Better for groups of average or below average ability

TEACHERS' APPRAISALS OF EXTENT AND DEGREE OF PUPIL PARTICIPATION

FAVORABLE EXPERIENCES

1. Work is apportioned appropriately
2. Each can think and plan in his own way
3. Slow ones have ample chance to keep occupied
4. Great opportunity to develop leadership and initiative
5. Slow pupils make greater progress
6. Greater growth in appreciation
7. Definite and equitable individual responsibilities
8. Pupils become intelligent thinkers, planners, and workers
9. There is lack of disciplinary difficulties
10. There is greater understanding

QUALIFYING STATEMENTS

1. Due to large numbers it is hard to keep everyone fully engaged
2. Teacher must have time to learn to know and to challenge varying ability

TYPICAL PARENT REACTIONS

FAVORABLE EXPERIENCES

1. A number of parents said, "My child would not stay home for anything"
2. "My child knows more now than I did at much later period"
3. "My child thought this program more practical"
4. Parents are happy that children find use at home for what they have learned at school.

QUALIFYING STATEMENTS

1. Parents do not know enough about the nature of the program and its philosophy
2. Much remains to be done by way of informing parents
3. One parent said, "Children are not learning enough. They have too much freedom"

5. Several parents asked the nurse to give them the First Aid and Nutrition course
6. A number of parents noted the sudden increase in interest in the social studies program
7. Many parents supplied materials
8. There was agreement on the part of parents who expressed themselves
9. One parent said, "Now schools have their feet on the ground"

TEACHERS' DEFINITIONS OF MAJOR OBSTACLES

1. Lack of suitable reading materials
2. Inability of small children to discipline themselves
3. Inadequate provision for field trips
4. Lack of cooperation among teachers
5. Lack of space and equipment
6. Large classes
7. Lack of visual aids
8. Inadequate time for planning and assembling materials
9. Inflexibility of schedules
10. Danger of superficiality

PLANS FOR THE FUTURE

Plans for the immediate future include the following: (1) use of the bulletin on conservation and the teachers who participated in the experimental program to interpret plans and procedures to others in each county; (2) the organization of county and local school workshops; (3) the establishment of "pilot" schools throughout the state; (4) arrangements for regional meetings for demonstrations and critical evaluations; (5) use of recognized specialists for intensive experimentation in three selected areas; (6) use of staff meetings for the cooperative planning of enterprises in areas of the curriculum not yet touched by the experimental program.

TRENDS IN THE OBJECTIVES, SUBJECT MATTER CONTENT, AND EMPHASES OF AMERICAN HISTORY TEACHING IN THE SENIOR HIGH SCHOOL SINCE 1890

by EARL THOMAS WILLIS*

During the past five years there has been much discussion among educators, historians, and social scientists concerning the teaching of American history in the schools. Although this study does not concern itself with the question of how much American history should be taught, an understanding of the trends in American history teaching should prove enlightening to those who are concerned with this area of the secondary school curriculum. The primary purpose of this thesis is to trace, in broad outline, trends in objectives, content, and emphases in the teaching of American history in the senior high school since 1890.

In order to secure data for this study, reports of national committees, textbooks and courses of study in senior high school American history, and educational literature were used.

REPORTS OF NATIONAL COMMITTEES

The reports and recommendations of official committees from such organizations as the National Education Association, the American Historical Association, and the National Council for the Social Studies are analyzed in this study, for they have exerted tremendous influence upon curriculum development and teaching in the social studies.

In 1892, the National Education Association appointed the Committee of Ten to survey and report on the secondary school curriculum. This committee recognized the chief object of historical study to be the training of judgment and recommended American history for placement in grade eleven with a special period of history selected for intensive study in grade twelve.

One of the most influential of the national committees was the Committee of Seven which was appointed by the American Historical Association in 1896. American history was considered an advanced subject with knowledge, citizenship, and intelligent patriotism as its chief objectives. The committee advocated that less attention be given to colonial history and that it be treated as a part of the expansion of England. Less emphasis was to be placed upon military campaigns without underestimating the main facts dealing with the wars in our history. Considerable attention was given to the importance of political, social, and economic history, and a proper balance between the three phases. This

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committee recommended that American history and civil government be placed in grade twelve.

In 1907, the American Historical Association appointed the Committee of Five. This committee recommended American history and government as separate courses for grade twelve and suggested the ratio of three to two in time allocation. The study of history was recognized as more important for those who do not go to college than for those who do.

The Committee on Social Studies, created by the National Education Association, published its report in 1916. The aims of American history instruction advocated by the committee showed the influence of the war period by their emphasis on national solidarity, national efficiency, and national patriotism. The needs of those students who do not plan to go to college were recognized by the committee's recommendation of the adoption of the *topical* or *problem* method, the selection of which was to be made on the basis of pupil interest and general social significance. This committee advocated that American history be retained in grade eleven or twelve and that it be followed by a course in Problems of American Democracy.

The American Historical Association appointed another committee in 1923 to survey conditions and tendencies in history teaching. The work of this group was known as the History Inquiry. After reviewing the work of earlier committees, this group recognized the tendency to move the American history course from grade twelve to grade eleven to make room for the analysis of modern problems. The need for special attention to the matter of teacher training in the social studies was also recognized.

With the aid of a grant from the Carnegie Corporation, in 1929, the American Historical Association appointed a committee of historians, social scientists, educators, and psychologists to make a comprehensive survey of the entire field of social studies teaching. As a result of the undertaking sixteen volumes comprising the Report were published. The value of the report was believed to result in social studies teachers accepting a broader view of their work and adapting their teaching to the changing social order.

Between June 1, 1943 and October 1, 1943, a committee directed by Edgar B. Wesley and composed of representatives from the American Historical Association, the Mississippi Valley Historical Association, and the National Council for the Social Studies undertook the problem of investigating the study of American history in the schools and colleges. The committee said that the quality of historical study is dependent upon the objectives agreed upon. It concluded that the *quality* rather than the *quantity* of American history offered in the schools needed attention. Much overlapping in the content of American history courses was found at the various levels, especially between the junior and the

senior high school levels. In the place of a course outline the Committee recommended areas of special importance together with minimal information and skills for emphasis on the senior high school level.

From this analysis of the various committee reports, the following conclusions are drawn:

1. During the period covered in this study, American history has been recognized as a very important subject in the senior high school curriculum.

2. The National Education Association and the American Historical Association have exerted considerable influence upon the teaching of American history in respect to content, emphasis, and grade placement.

3. The various committee reports reflect an awareness of the ever increasing content of American history and contain the recommendation that the senior high school course be limited to certain areas of special importance, minimal information, and skills.

4. American history has been recommended for placement in grade eleven or twelve depending upon the other offerings in the social studies curriculum.

5. With the publication of the report of the Commission on the Social Studies it became evident that no blueprint of courses in the social studies can be prepared and turned over to the schools. The teachers and the schools must accept responsibility for studying society and analyzing its problems. They must help their pupils develop practical competence in citizenship by stressing the skills of inquiry and discussion by promoting interest in extensive reading, and by focusing attention on those phases of American history which most help pupils to understand how the present came to be and to think and act effectively in dealing with the problems of our day.

AMERICAN HISTORY TEXTBOOKS

Considerable attention is given to the analysis of senior high school American history textbooks for, in effect, textbooks have determined the course of study. A total of sixty-one editions, published between 1885 and 1946, were analyzed in this study. Some were used in only one edition, others in four or five editions.

From an analysis of objectives based on the authors' statements of purpose as found in the prefaces of twenty-eight textbooks, the following conclusions are stated:

1. The objectives mentioned are similar to a list one may find in almost any discussion of the teaching of history.

2. The citizenship value of history was mentioned only once between 1893 and 1920 indicating that this value was neglected during that period.

3. Certain new values (to understand the present, social, and historical)

ical-mindedness) appeared between 1900 and 1920 and have continued since that time.

4. The patriotism objective was important in the periods of World Wars I and II.

5. Only one text examined for the period 1893-1946 claimed to present a decided point of view—the Southern point of view.

6. During the last decade textbook writers of American history considered the following objectives important: (a) to acquire knowledge, (b) to develop patriotism, (c) to understand the present, (d) to develop citizenship, (e) to develop historical-mindedness.

The subject matter content of the sixty-one textbooks examined in this study is analyzed in two ways—in terms of certain chronological periods and in terms of certain selected topics. The first classification consists of seven periods as follows:

I. Discovery to the Peace of Paris, 1763.

II. 1763 to the Inauguration of Washington, 1789.

III. 1789 to the Inauguration of Jackson, 1829.

IV. 1829 to the End of the War Between the States, 1865.

V. 1865 to the Spanish-American War, 1898.

VI. 1898 to the End of World War I.

VII. Since World War I.

From this analysis of content by periods, these findings are stated:

1. Whereas some of the earlier textbooks utilized as much as 40 per cent of their space on that part of our history which concerns early explorers, the founding of the colonies, and the wars for control of the continent, more recently published textbooks have reduced this material to provide emphasis on recent history.

2. The decrease in the amount of space devoted to period II (1763-1789) has been relatively small in texts published during the past two decades.

3. From the standpoint of the amount of space, period III (1789-1829) shows less variation over the entire period of this study than does any other of the seven chronological periods.

4. An average of 22.5 per cent or nearly one-fourth of the textbook space allotment is devoted to the period from Jackson's inauguration to the close of the War Between the States.

5. Although the earlier textbooks devoted greater space to the period 1865-98, the amount of space utilized for this period in texts published since 1910 has remained stationary.

6. Not one text published prior to 1914 devoted as much as 10 per cent to the period 1898-1918.

7. The text, Hamms' *The American People*, published in 1939 and containing the greatest number of pages of the sixty-one books examined,

devotes a greater proportion of its space to the period since World War I than any of the other texts examined.

The second type of content analysis of American history textbooks deals with the following selected topics related to specific phases of political, social, and economic history—wars, making of the Constitution, analysis of the Constitution, labor, tariffs, education, art and literature.

The results of this type of analysis are as follows:

1. The average per cent of space devoted to the military phases of the wars in our nation's history has dropped to approximately one-third of what it was during the decade 1891-1900.

2. Variations in the average per cent of space devoted to the story of the making of the Constitution in texts published between 1891 and 1940 have been practically negligible.

3. More recently published texts, especially those published during the 1930's, devoted as much as a whole chapter to the analysis of the Constitution.

4. Labor received very little attention in textbooks prior to 1921. Since then the average space allotment has increased slightly.

5. There has been very little variation in the average per cent of space allotted to tariffs.

6. Education received slight mention in textbooks published prior to 1921. Since then there has been no increase in space allotment.

7. Art and literature received no appreciable mention until the decade 1931-40.

AMERICAN HISTORY COURSES OF STUDY

A total of thirty-one editions of state and city courses of study prepared between 1904 and 1946 and two syllabi published by the New England History Teachers' Association in 1904 and 1935 are examined in this study. These courses of study vary from single paragraphs describing the course to detailed outlines of subject matter content and explanations of procedure for both teacher and pupil.

The following conclusions are drawn regarding objectives of American history teaching as found in these courses of study:

1. Objectives of American history as found in courses of study are similar to, if not identical with, those stated in the textbook analysis of objectives.

2. Citizenship and information objectives appear more frequently than other objectives.

3. The term "patriotism" began to appear as an objective after 1931 in the courses included in this study and was qualified in such terms as "broad", "reasoned", or "finer".

4. A significant trend in American history teaching according to this

analysis of courses of study has been a recognition of the importance of developing skills, appreciations, attitudes, and understandings.

The results of this analysis of courses of study in respect to content and emphasis are stated as follows:

1. Earlier courses of study show traditional chronological development of history with emphasis on the political and military phases.
2. In keeping with the recommendation of the Committee of Seven for the teaching of American history and civil government in grade twelve, earlier courses examined in this study gave much attention to constitutional questions and government.
3. Increased attention has been and is being given to international relations. This development is particularly noticeable in the more recently prepared courses.
4. The inclusion of more social and economic history is noticeable, especially in those courses prepared during the last decade and a half.
5. More attention is being given to inter-American relations and hemisphere solidarity in the newer courses of study.
6. During the past decade there has developed a tendency in some of the senior high schools to combine courses in American history and government. In some instances, such a course covers a two-year period.

EDUCATIONAL LITERATURE

Educational literature was included in this study, for it reflects current thought on some of the committee reports and changing practices in the social studies. By educational literature, reference is made to (1) such magazines as *History Teacher's Magazine*, *Historical Outlook*, *Social Studies*, and *Social Education*, (2) Yearbooks of the National Council for the Social Studies, (3) Proceedings of the Middle States Council for the Social Studies (formerly Association of History Teachers of the Middle States and Maryland), (4) Reports of the New England History Teachers' Association, and (5) the Sixth and Fourteenth Yearbooks of the National Education Association.

This analysis of educational literature reveals the following trends in objectives of American history teaching:

1. Educational literature evidences a concern on the part of historians and teachers as to the aims and purposes of American history teaching.
2. One of the earlier discussions of objectives listed the inculcation of historical mindedness as the primary aim.
3. An investigation of American history syllabi in 1926 revealed three dominant aims—the mastery of facts, the development of good citizenship, and the appreciation of and devotion to high ideals.
4. Research studies show that objectives of American history teaching have been affected by changes or disturbances in the social order. World War I brought the demand for a "more enlightened patriotism". The

depression of the 1930's evidenced a greater social consciousness with its consequent community responsibilities. World War II brought a keener interest in human relations necessitating an exploration of the multi-nature of American culture and the application of democratic ideals.

In regard to content and emphasis the following conclusions are reached from this analysis of educational literature:

1. During the second decade of the present century historians recognized that too much time and attention were given to the colonial period and the Revolution, whereas, more time was needed for stress upon constitutional questions, the development of social and political institutions, the working of economic forces, and the treatment of diplomatic history.

2. Between 1910 and 1920 such historians as Paxson and Schlesinger recommended greater emphasis on recent American history.

3. A study of American history syllabi in 1926 revealed an increased importance of social and economic history and greater emphasis given to the foreign relations of the United States. The study also evidenced a tendency to enlarge the field and scope of American history to include the main movements in the Western hemisphere with which the United States is concerned.

4. Educators and historians in their concern for the kind of history taught advocated the teaching of such historical materials as competent scholars are able to select on the basis of scholarship, meaningfulness, and social significance.

5. The effects of World War II are profound upon the thinking of historians and educators concerning the changes that need to be made in American history textbooks and courses of study. Such recommended changes should include a positive treatment of Canadian-United States relations, an expansion of the American history course to include a history of the Americas, and stress upon the world view of American history.

6. Recent studies reveal that too much is being attempted in the present American history course. Suggested procedures to correct this condition call for beginning the course with the American Revolution or the making of the Constitution—allowing more time for political, social, and economic development and for recent problems.

7. Although no blueprint can be placed in the hands of teachers for a reorganized course in American history, certain guiding principles of content reorganization are recommended, including a reduction in the number of topics or units, a reorganization of textbooks along the broader topics, and the organization of courses around certain key periods of our national history.

8. In the light of much needed reorganization of the American history course, it is evident that a long-range plan of research and experimentation should be initiated to determine how the study of history can

develop the power of reason and to suggest major developments and thought patterns that will best help students understand the past, interpret the present, and confidently face the future.

CONCLUSIONS

1. The objectives of American history teaching reflect the changing philosophy of secondary education and show the influence of changes or disturbances in the social order, especially as evidenced by wars and depressions.
2. According to recent educational literature, the development of a desire for the democratic way of life and of a desire to apply the scientific method to the analysis of contemporary problems are important purposes of American history teaching.
3. Textbooks and courses of study evidence the increasing content of American history.
4. In general, courses of study and textbooks have followed the recommendations of national committee reports in respect to grade placement of the subject.
5. Increasing attention is being given to social and economic history, to recent history (especially to the period since the Civil War), and to international relations.

FACTORS RELATED TO THE EFFECTIVENESS OF COUNSELING

by CLIFFORD PAYO FROELICH*

The purpose of this study is to appraise selected tools and techniques for evaluating the effectiveness of counseling. Research aimed at evaluating counseling is needed. Today counseling is an important and rapidly growing profession. Justification for this growth and professional acceptance should be based on the demonstrated effectiveness of counseling. Likewise, the improvement of counseling is at least partly dependent upon a knowledge of the relative efficacy of the various procedures employed in this activity.

The objective of counseling is to assist individuals in making choices which lead to action for the greatest good to themselves and to society. Counseling attempts to attain this objective by having a counselor provide a situation in which the individual is stimulated (1) to evaluate himself and his opportunities, (2) to choose a feasible option, and (3) to accept responsibility for his choice and for initiating an appropriate course of action.

A review of the literature on evaluation of counseling revealed that seven methods have been used. The seven methods described in Chapter II are: external criteria, follow-up, client opinion, expert opinion, specific techniques, within-group changes, and between-group changes. On the basis of this review, it is impossible to identify one method as the best. There is, therefore, a need for research to discover the relative efficacy of the various methods.

Variations in the findings of evaluative studies suggest the necessity of evaluating counseling done under a wide variety of conditions. The writer believes that research should be directed toward the discovery of evaluative methods which meet acceptable standards, but which are not beyond the reach of the practicing counselor.

Evaluative studies should obtain information of such scope and validity that existing counseling can with assurance be continued or modified in the light of the findings. To accomplish these aims, an adequate criterion must be found. The lack of suitable criteria has been the greatest single difficulty of evaluation to date. Obtaining comparative data on criteria which have been used or proposed and on evaluative methods appeared, to the writer, to be a logical first step. This study was designed to obtain such data.

The study is based on individuals whose case folders were in the closed file of the State Consultation Service. All had registered with the Service for counseling during 1939 or later years.

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The State Consultation Service is a state-supported, free counseling agency, located in Richmond, Virginia. The Service appeared to be a satisfactory laboratory for the experiment under consideration, because it had adequate records of a large variety of clients counseled in accord with acceptable professional standards.

The study was sponsored by the General Education Board, the State Consultation Service of the Virginia State Board of Education, and the United States Office of Education. The professional staff for the study was composed of three full-time members and several consultants.

The study comprises two major investigations. Each is summarized separately. The first investigation was concerned with the analysis of case-folder data. Four specific objectives of this analysis were:

1. To describe the counselee population by analysis of case folders.
2. To explore the possibility of identifying stereotypic treatment of counselees by analysis of case folders.
3. To evaluate certain beliefs commonly held by counselors.
4. To test the hypothesis that counseling could be evaluated by a determination of the relationships among data in case folders.

Contingency coefficients, chi squares, and P-coefficients were computed for 178 relationships among the 30 case-folder items selected for study. The computations were based on a sample of 740 cases. The nature of these relationships was analyzed and discussed.

Conclusions based on this investigation were formulated in terms of the four objectives.

CONCLUSIONS BASED ON ANALYSES OF CASE-FOLDER DATA

The first objective was to describe the counselee population by analysis of case-folder variables. This objective was attained for those variables which reflect the physical and social status of counselees. Variables which describe the mental and emotional status were beyond the scope of this investigation. With three exceptions, variables whose accuracy was dependent on counselor-prepared interpretative reports were excluded. This exclusion of variables, as well as the lack of test scores, accounts for the lack of data on counselee's feelings, drives, aptitudes, and abilities. Two major questions in line with this objective remain unanswered. How much would the description of counselee be improved by the use of test-score data? What additional variables, especially those obtained directly from the counselee at the time of counseling, can be used profitably? Further research is indicated.

To determine the feasibility of using case-folder analysis for identification of stereotypic treatment of counselees was the second objective. Several instances in which stereotypic treatment was suspect were identified. Interpretations were difficult because no satisfactory norm of necessary treatment was available. The technique is useful in identify-

ing patterns in the treatment of counselees. The evaluation of these patterns rests on the judgment of the investigator.

This investigation demonstrated the possibility of evaluating commonly held beliefs of counselors. This was its third objective. The types of common beliefs which can be evaluated are limited by the data available. In one instance it was shown that a knowledge of the counseling procedures made it possible to reach conclusions from logically related data which were similar to those obtained from data bearing directly on the problem.

The fourth objective was to test the hypothesis that counseling could be evaluated by a determination of the relationships among data in case folders. Here, as in the second objective, the validity of the evaluation rests in a large measure on the quality of the evaluator's judgment. A distinct difference between the two is apparent, for in this case the criteria are the standards which the investigators believe are acceptable. Failure to meet these standards is more easily identified than is stereotypic treatment. An example may clarify the point. The concentration of counselors' recommendations for females in the short-term planning category as opposed to long-term planning for males indicates the possible existence of stereotyped methods of dealing with counselees. Conclusions are limited by the lack of a norm for distribution of recommendations. On the other hand, the counseling of 56 percent of clients in 1939-40 without any test evidence clearly does not meet standards accepted by this investigator or by most guidance workers. Determination of relationships among case-folder data yields evaluative data.

FOLLOW-UP OF COUNSELEES

The second major investigation in this study analyzed data obtained by follow-up of counselees. The specific objectives set for this investigation were:

1. To compare follow-up data obtained by personal interview with data obtained by mailed questionnaire.
2. To determine the relationships among certain follow-up criteria which have been used or proposed by recognized guidance leaders.
3. To determine the relationships between those criteria found to be relatively independent of one another and selected items recorded in case folders.

This investigation is based on two samples composed of persons whose case folders were in the closed file of the Consultation Service. The first sample was the same as that used in Chapter III, the analysis of case-folder data. They were followed up by personal interview. The second sample, composed of 740 cases also drawn from the closed file, were followed up by mailed questionnaire. Usable follow-up data were obtained from 279 persons followed up by interview, and from 225 per-

sons followed up by mailed questionnaire. Comparisons between data obtained by interview and by mailed questionnaire were made. Interrelationships among items obtained during the follow-up interview were ascertained. Certain follow-up items were then compared with selected case-folder items.

Conclusions derived relative to each of the objectives from this investigation were presented.

The first objective of this investigation was to compare follow-up data obtained by personal interview with data obtained by mailed questionnaire. Although it was impossible to obtain strictly comparable sample populations upon which to base such a comparison, the differences found appear to be gross enough to have resulted from other factors than sampling error.

Through intensive efforts it is possible to obtain follow-up data by personal interviews from persons representative of the original sample. If, however, dependence must be placed entirely on follow-up by correspondence and mailed questionnaires, even intensive efforts along these lines are likely to yield a biased response to the original sample. Useful responses to such a technique are likely to be made by those in the original sample who (1) have had the most schooling, (2) are continuing their education, (3) hold sales, clerical, managerial, professional, or kindred jobs, (4) feel that they were helped by counseling, (5) assert that they followed the plan suggested, and (6) recall their counseling experiences well.

Persons responding to mailed questionnaires more frequently express opinions favorable to counseling than those followed up by personal interview. It appears likely that this favorable attitude tends to color many of the responses to questions which are designed to provide data for criteria other than attitude toward counseling. Since in mailed questionnaires, general attitude toward counseling is a common factor in many of the responses, it is likely that the inter-correlations among the items will be higher than in personal follow-up data. Under these conditions, the criteria would not be expected to be as independent of each other as those finally selected in this study.

The mailed questionnaire method was found to be considerably less expensive than personal interview follow-up. Follow-up data were obtained from a larger proportion of persons followed up by interviewers. Many more such persons could have been contacted had it been possible to travel greater distances.

Persons responding to mailed questionnaires tend to be those who remember counseling well. The analysis of follow-up data indicated persons having a good remembrance of counseling are more frequently those for whom counseling resulted in some overt action—such as making an employment contact. If the counseling resulted in a long-term plan,

counselees are less likely to remember. It may be, therefore, that the mailed questionnaire technique introduces an additional bias not present in the interview follow up.

The second objective of this investigation was to determine the relationships among certain follow-up criteria which have been used or proposed by recognized guidance leaders. The individual items included on the follow-up schedule were selected from among the many found when the literature was reviewed. Most of the intercorrelations among the items were found to be extremely low. It would appear, therefore, that many of the differences in results of evaluative studies reported in the literature may well be criterion differences. This finding has important implications for investigators concerned with the evaluation of counseling. An analogy can be drawn from the field of mental testing. When the term I.Q. was first introduced, it was frequently used as if it were an absolute. Now it is generally recognized that an I.Q. is not only dependent upon the person being tested but also upon the test being used. Thus, in mental testing we have "Stanford-Binet I.Q." or "Wechsler-Bellevue I.Q.", which indicates that the I.Q. was derived from the Stanford-Binet or from the Wechsler-Bellevue test. It is apparently equally as important in evaluation to qualify results by designation of the criterion. Many of the apparently conflicting findings of the studies reviewed in Chapter II are resolved in the light of this finding.

In preparation of the follow-up schedule, the writer arranged the items in five major categories. This was done on the basis of a knowledge of counseling and reviewing the literature on evaluation. In general, the correlations among the items in each group were greater than the correlation with items in other groups. Items in which the counselee evaluated the helpfulness of counselors tended to be related, irrespective of category. This finding tends to support the writer's belief that criterion items can be roughly assayed by logical rather than experimental procedures. If this is true, then it may be possible to make rough comparisons of the findings of studies reported in Chapter II without resorting to experimental procedures.

It was found that certain of the items included in the follow-up schedule were significantly associated with each other. Each group of highly related items was found to be relatively independent of other groups of inter-related items. Each of these groups of items was selected as a criterion. The first criterion, occupational adjustment, contains three items. They are the client's job satisfaction, his desire to change jobs, and a follow-up interviewer's rating of the client's occupational adjustment. The second criterion, personal adjustment, is composed of items dealing with a number of perplexing problems which the client has at time of follow-up, his reaction to the number of social activities in

which he participates, and a follow-up interviewer's rating of the client's personal adjustment. The client's attitude toward counseling is the third criterion. It is composed of items dealing with the counselee's remembrance of counseling, his opinion of the helpfulness of the counselor, and the number of persons to whom he has recommended counseling.

Each of these criteria appears to deal with a separate aspect of counseling effectiveness. Since items in each of the criteria possess a high degree of communality, it is believed that they are reasonably stable criteria. In addition to these three criteria, two others were selected. Although both deal with change in status after counseling, they are independent of each other. The one deals with gross changes in occupational level and the other with changes in the amount of schooling attained by the client. Accomplishment of the second objective of this investigation made possible the identification of these five independent criteria of the effectiveness of counseling.

The third objective was to determine the relationships between the criteria found to be relatively independent of one another and selected items recorded in case folders. The primary recommendation made by counselor and the major outcome as determined by the counselor were found to be significantly related to the occupational adjustment criterion.

Significant relationships were found between the personal adjustment criterion and number of personality tests given, the total number of tests administered, primary problem as seen by the counselor, and primary recommendation made by counselor.

The attitude toward counseling criterion was significantly associated with more of the case-folder items than any of the other criteria. It was found to be related to the following: year counselee registered for service; the counselor handling the case; the number of scholastic aptitude, interest, personality, and dexterity tests administered; the total number of tests given; primary problem as seen by the counselor; primary recommendation made by the counselor; and the major outcome as determined by the counselor.

The change in occupational status criterion was found to be significantly related to the counselor handling the case and the primary recommendation made by the counselor. Significant relationships between change in educational status and the following items were found: number of scholastic aptitude tests, number of dexterity tests, primary problem as seen by the counselor, and the primary recommendation made by the counselor.

No statistically significant relationships between any of the criteria and the following case-folder items were found: number of special aptitude tests, number of conferences concerning the client which the counselor held with others, the number of counseling contacts which the

client had with the counselor, or referral of the client by the counselor to others.

Two types of case-folder items were compared with the criteria. Those items which enumerate counselor activity, such as the number of counseling contacts, are not as closely related to the criteria as those which directly reveal the counselor's judgment. The judgment items considered in this investigation were primary problem as seen by the counselor, primary recommendation made by the counselor, and major outcome as determined by the counselor.

In Chapter III it was reported that the counselor activity and the counselor judgment items were significantly associated with each other. It appears, therefore, that counselor activities may be important elements influencing the counselor's judgment. In the investigation reported in this Chapter, counselor judgments were found also to be significantly associated with criteria of the effectiveness of counseling. But the counselor activity items were not found to have a significant relationship with the criteria of counseling effectiveness used in this study. Even though counselor activity and counselor judgment are associated and counselor judgment and the criteria are related, it does not follow that counselor activity and the criteria are necessarily associated.

The reasons for the lack of association between counselor activities and criteria of the effectiveness of counseling are myriad. The most important one may be differences in counselees. For example, the counselor may use the same activities with two counselees and by these activities arrive at different judgments for each client. One accepts the counselor's judgments, the other rejects them. When these counselees are followed up, a relationship between counselor judgment and criteria of effectiveness may be discovered, because the different judgments each led to a different outcome. But no relationship between counselor activity and outcome criteria may be apparent, since the same activities led to different outcomes. The writer believes that this example can be generalized and stated as a hypothesis. Criteria measuring the effectiveness of counseling must be applied to counselor judgments. Only after the judgments have been evaluated, can counselor activities basic to these counselor judgments be evaluated.

If this hypothesis is tenable, a two-step evaluation of counseling is in order. First, the counselor judgments should be compared with criteria of the effectiveness of counseling. This investigation has suggested five such criteria. This process will identify those counselor judgments which are effective, as well as those which appear to be of little effect in producing conditions measured by the criteria. The second step can then be taken. Counselor activities may then be analyzed to determine their usefulness in helping counselors make effective judgments. Likewise, such an analysis will enable counselors to discover the nature of

activities which caused them to make ineffective judgments. The writer believes that such evaluation can be done successfully by methods employed in the investigation reported.

The use of these methods provided data for conclusions concerning the counseling done at the State Consultation Service. The Service was most effective in dealing with males, persons in need of short-term planning, clients with dominant personal problems, and those who were counseled in recent years. The testing program fluctuated greatly from time to time, dependent largely on the staff personnel employed. Case folders contained little evidence that the counselors had knowledge of the outcomes of counseling. Only 10 per cent of clients believe that counseling was of no help, but nearly half indicated that they did not follow plans made during counseling. The specific activities of the counselor were related to the recommendations he makes. But these activities are not as closely associated with the action taken by the counselor.

Recommendations regarding counseling techniques and the operation of the State Consultation Service were made. Counselors should specialize in the type of clients handled. In-service training on testing should be organized to promote greater understanding by counselors of the uses of tests. The methods of counselors using fewer interviews and conferences with others should be studied in an attempt to identify specific techniques used which enable them to complete counseling more rapidly. More effective means should be employed to determine that the counselee accepts plans made and that he does not have other problems which he wishes to discuss. Special attention should be given to ways of assisting counselees to participate in a greater number of social activities. A continuous follow-up plan should be devised to keep counselors apprised of the counselee's progress and his need of further counseling.

IMPLICATIONS FOR GUIDANCE WORKERS

The writer believes that this study has implications for guidance workers in general. The principal findings having wide application are enumerated below:

1. The evaluative criteria and methods employed influence to a large extent the findings of any evaluative study which attempts to assay the worth of counseling. It appears that the findings are almost specific to the criteria. Thus, if client opinion is taken as the criterion of successful counseling, the evaluation will place counseling in a favorable light. But if following a plan made during counseling is the criterion, counseling will appear to be of little value. That the findings are influenced by the method as well as the criteria used was evident from the comparison of questionnaire and interview data. These facts are the basis of the next generalization.

2. Guidance workers in evaluating programs may do well to employ the criteria and methods used in this study. Since the findings are so dependent upon these factors, this would provide a basis for comparison. It has been pointed out repeatedly in this study that lack of comparative data or norms made it extremely difficult to reach sound conclusions concerning counseling. By using the criteria and methods of this study, a frame of reference will gradually be built up for evaluating counseling done under different conditions. The writer recognizes the presumptuousness of this suggestion, but feels that it is justified. The criteria were selected from those used or proposed by recognized guidance leaders. In a sense they represent a final ruling of the best criteria to date. The methods used meet acceptable research standards, yet may be employed by persons not highly trained in research.

3. Finally, this study demonstrated the folly of trying to evaluate counselor activities in terms of final counseling outcomes. This is, in the opinion of the writer, the most significant finding in terms of practical application in further studies. Determination of the factors related to counseling is a two-step process. First, counselors' judgments must be evaluated in terms of final outcomes of counseling. Second, when the relative merits of the judgments which were made by the counselor during counseling have been determined, the activities basic to those counselor judgments can then be evaluated.

FREDERICKSBURG AND VICINITY IN PERSPECTIVE: A STUDY OF A RURAL-URBAN COLONIAL NEIGHBORHOOD

by OSCAR HADDON DARTER *

The purpose of this abstract is to give a summary of a study which has been made regarding Fredericksburg and vicinity as a cosmopolitan rural-urban colonial community.

As a background factor, the study is concerned first with the Indian people of the Rappahannock Valley and their culture. The over-all picture of this Indian culture shows that it was intertribal in character.

The native culture of this section was a composite of many culture patterns, and the arts and artifacts of these Indians became widely distributed. These articles found their way into distant places of continental America—Tennessee, Alabama, Georgia, Pennsylvania, North Carolina, Florida, Maryland, New York, California, Louisiana, Mississippi, and other localities, and those made by Indians in distant places have been found in this section.

With the coming of the white man, the native cultures mixed with the European cultures and African patterns, a commingling which tended to broaden the outlook of both peoples. The European elements represented nearly every nationality—English, French, Spanish, German, Swiss, Dutch, Jewish, Scottish, Irish, Welsh, and others.

Travelers from nearly all parts of Europe visited Fredericksburg and the Rappahannock Valley during the eighteenth century and left accounts of their observations. Many of these accounts are quoted in this dissertation. The picture their accounts present is one of cosmopolitanism.

The varied business, industrial, commercial, and trade interests of the people of the town further indicate this cosmopolitanism, especially of the professional classes—merchants, doctors, lawyers, ministers, and tutors. A full picture of the business concerns in Fredericksburg is given in the chapter on "Major Industries in Colonial Fredericksburg." The following examples are taken from that chapter:

The Spotswood Company held 125,000 acres of land and ran four iron furnaces in the vicinity. The Principio Company of Maryland had large holdings in the Fredericksburg area. The Hunter Iron Works was perhaps the largest of these mining interests. The advertisement for sale of the property in 1798 stated that the plant at that time consisted of a large "forge with eight fires and four hammers . . . a merchant flour mill . . . a grist mill . . . a smith shop with three fires . . . a nailery, a tanyard, cooper, carpenter, and wheelwright shops . . . a coal house . . . saw mill . . . several mechanical

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branches and houses for managers, millers, and workmen, with tools and utensils . . . and one hundred Negro slaves working at the forge." Hunter's manager, John Strode, in 1805 submitted a "Plan" for establishing iron works in Spotsylvania County to include sixty thousand acres of land. He estimated the proposed works and land to be worth \$120,000. Spotswood had twice this acreage and four furnaces, as previously stated; therefore, his iron interests must have been worth much more than the project proposed by John Strode.

Thomas Jefferson described the volume of trade of Falmouth and Fredericksburg in 1770 by saying: "The most considerable Iron Works up this river makes $1\frac{1}{2}$ ton pr. day into bar. 23 Ships, 6 Snows, 13 brigs. 31 Schooners, 12 Sloops. 11,763,088 pounds of tobacco, 7029 bu. of wheat, 9209 bu. Corn & 5594 Bar.^{1c} Bread and flour, $113\frac{1}{2}$ ton bar, 364 pig Iron 67 tons Hemp besides lumber." Dr. Schopf described the Hunter Works in 1783 by saying that "Above Falmouth near the falls of the Rappahannock, is one of the finest and most considerable iron works in North America. More than 6-800 tons are worked here yearly . . . These works are distinguished besides a rolling and slitting mill, and of this there are only two or three in America." Jefferson referred to the town as "being constantly filled with sailors from all parts of the world."

There were over three hundred and fifty separate businesses in Fredericksburg between 1750 and 1780, as compared with 583 today. Many of these concerns did a large-scale business, carrying on extensive foreign as well as domestic trade. There were four large public tobacco warehouses and at least eleven other warehouses of various kinds, in addition to several public warehouses for wheat and hemp. Other relatively large concerns included shipping firms, mercantile establishments, tanneries, salt works, potash plants, lumber yards, flour and grist mills, and several factories.

The trade relations of the merchants of Falmouth and Fredericksburg reached far inland and included forty-three North American coastal towns from Quebec to Bermuda as well as one hundred and twenty-five extra-continental ports. Luigi Castiglioni described Fredericksburg in 1785 by saying that "Fredericksburg like Alexandria enjoys the privilege of a City." William Loughton Smith five years later tells us that the town had "upwards of 300 houses," which meant that Fredericksburg had approximately three thousand inhabitants in 1790.

In many other aspects the town and neighborhood reflected the same air of cosmopolitanism. This world outlook is manifested by the travel and correspondence of the members of the upper classes, by their libraries, by the tutors who taught in their homes, by the schooling of the members of these families, by their membership in fraternal and learned societies.

Bertram Maxwell made a significant statement and one which is highly applicable to the aristocracy of the Rappahannock Valley when he wrote: "Early eighteenth century nationalist writings were humanitarian, that is, they had a high regard for mankind in general and relied upon reason rather than exaggerated patriotism and sentimentalism to solve all problems. The authors were internationalists in that they were enlightened cosmopolitan world travelers, and they believed that internationalism could be served best by intelligently governed individual nations, each contributing its part to a world system."

The reason for such an outlook on the part of members of the upper classes of Fredericksburg is given detailed treatment in this dissertation. The town was a commercial, cultural, political, and communications center. The postal headquarters of the British Dominions of North America and the West Indies were at Fredericksburg from 1730 to 1753, when Alexander Spotswood, John Lynch, and Elliott Bengier, all residents of this vicinity, served as Deputy Postmasters-General.

In respect to travel, it is shown that merchants, ministers, doctors, tutors, and planters made frequent trips to Europe, the West Indies, and other parts of the world. They carried on correspondence with friends and men of business in all these places. The libraries of these men were relatively large and well chosen, containing many books on the classics, law, history, divinity, philosophy, mathematics, surveying, science, geography, travel, education, and business. There were books in various languages—French, German, Spanish—also magazines, gazetteers, books on military arts, and the like. In many of these libraries were to be found the works of such authors as Puffendorf, Grotius, Spinoza, Newton, Blackstone, Molière, Addison, Montesquieu, Locke, Chaucer, Erasmus. Some of the better libraries contained over fifteen hundred volumes, as did that of John Mercer, and that of Robert Carter.

Of the tutors who taught in the several homes of the neighborhood and the schools which were found in the town and vicinity, attention is here called to only a few. There were nearly fifty schools in this immediate area between 1750 and 1780, at least half of which were in Fredericksburg. The school conducted by Rev. James Marve was perhaps the most famous one in the town. "The Ducking Hole" School, which Thomas Jefferson attended, was only a short distance from Fredericksburg. Rev. Archibald Alexander, who later became President of Hampden-Sydney College and founder of the Divinity School of Princeton, was tutor in General Thomas Posey's home. Others included John Harrower, Phillip Fithian, Martin Heely and Col. Bernard Moore, and Rev. William Yates. Thomas Nelson states that he was tutored by "Mr. William Price, at Mr. Willis's" in Fredericksburg.

Of special interest are the McPherson Charity School founded by funds left by Archibald McPherson in his will of 1753; the Fredericks-

burg Academy, founded in 1785 and whose president was James Mercer; and the Fredericksburg Medical College, which must have been established about the same time or earlier.

There were thirty-seven doctors in colonial Fredericksburg, many of whom were educated in Edinburgh University, the University of Paris, and various other universities of Europe. Dr. John Tennent wrote an "Essay on Pleurisy" about 1735. Dr. Thomas Walker, the famous physician, soldier, explorer, and scientist, lived and practiced medicine in Fredericksburg. He was, perhaps, the first to explore the Kentucky and Tennessee countries and leave an account of his observations, which he recorded in his *Journals*. His *Journals* were the principal source of information used by Dr. John Mitchell in preparing his Map of 1755, "The most historic map of America." These journals were also the source of Thomas Jefferson's information on the geography, anthropology, zoology, botany, and the natural resources of Virginia and the back country.

It is interesting to consider the higher education of the colonials of the Rappahannock Valley. James Monroe, John Marshall, John Mercer, and many others went to the College of William and Mary for their advanced schooling. Of the southern graduates of Philadelphia College, Dr. Ewing Jordon states that "the first Southern student matriculated in the College May 25, 1754. Previous to 1775, thirty-five Southern students were graduated from the College Department, and about half that number were graduated from the Medical School. Maybe the number of Southern matriculates in our University, previous to the Revolution, numbered at least twice, if not four times, as many as the total number of graduates I have given." Dr. Jordon listed the names of students from Virginia. Almost the entire number were from the Rappahannock Valley or from the counties immediately contiguous to it. Of the students from Virginia listed by Dr. Jordon, twelve attended Princeton, six studied at Pennsylvania College, one was a student at Harvard, and one attended King's College.

In an article appearing in the *William and Mary Quarterly* entitled "Virginians Educated in Great Britain," there are listed thirty-seven students who were from the Rappahannock Valley counties. No other regions of Virginia can compare with the Rappahannock Valley in the number of colonials who were educated abroad. The European schools, colleges, and universities represented by persons from this section of Virginia, include Appleby, Cambridge, Eton, Edinburgh University, Leeds Academy, Inns Court, Oxford, University of Paris, and the University of Glasgow.

In considering Fredericksburg and its neighborhood as a center of literary production, it should be pointed out that the primary importance of the major portion of the writings produced there is determined mainly

by their historical significance. These writings represent nearly every field of learning. They were produced by men versed in the sciences of law, politics, and statesmanship, and by scholars, teachers, ministers, doctors, philosophers, travelers, historians, and scientists.

As to the fraternal and learned societies to which the men of this section belonged, the American Philosophical Society is perhaps first and most significant. Of the five members from Virginia who were elected to the Society in 1769, all were from the Rappahannock. Of the fifteen persons from Virginia who were made members of the Society before 1800, eleven resided in Fredericksburg and the neighboring area. The states and countries represented by the membership of the American Philosophical Society prior to the beginning of the Nineteenth Century included eleven of the American colonies, Antigua, Austria, Barbados, Belgium, Bohemia, Denmark, England, France, the German States, Iceland, India, Ireland, Italy, Jamaica, the Kingdom of the Sicilies, Latvia, Lithuania, Majorca, the Netherlands, the Netherlands Indies, Nova Scotia, the Papal States, Poland, Portugal, Prussia, Russia, St. Croix, Santo Domingo, Scotland, Spain, Sweden, Venetian Republic, and West Florida. Correspondence was carried on among these members and their writings were published and circulated by the Society.

Most of the more prominent leaders of the Rappahannock Valley belonged to the Masonic Lodge of Fredericksburg. Seventeen counties of northern Virginia were represented in its membership. Fredericksburg Lodge furnished six generals to the Continental armies: Hugh Mercer, Thomas Posey, Oliver Towles, Gustavus B. Wallace, George Weedon, and William Woodford, besides the Commander-in-Chief, George Washington.

The Virginia Chapter of the Society of the Cincinnati was organized at Fredericksburg on October 7-9, 1783. Most of the Virginia officers who had served in the Revolution were charter members of the Society.

Fredericksburg was the principal social and amusement center of northern Virginia. As an indication of the sense of social values of the citizens of Fredericksburg and neighborhood, a quotation from a "Petition of Subscribers for the Repair of the Market House" after the Revolution is of interest: "We the Subscribers having a due sense of the great Utility afforded the Country in general as well as the Inhabitants of the Town of Fredericksburg by the commodious situation of the Town House in said Town, which rendered accommodation, not only to polite, and numerous Assemblies, by which youth were greatly benefited, but also to all sorts of Ancient and Modern Societies of Fellowship."

Fredericksburg was the Derby center for the colonies in the sense that Louisville, Kentucky, is the center of that sport today. The men of the neighborhood who led in the horse-racing activities were General

Alexander Spotswood, Col. John Tayloe, Francis Thornton, William Fitzhugh, Philip Lee, Landon Carter, Mann Page, Thomas Minor, and George Washington. The gentlemen who specialized in horse-racing frequently imported stallions from England, Spain, France, the Mediterranean, and other parts of Europe.

Theatrical programs, concerts, and various kinds of stage entertainments were given at Fredericksburg. Mr. Sonneck in his *Early Concert Life in America, 1731-1800*, makes a very interesting statement in this connection: "Whereas in the other Colonies, New England excepted, high-life was centralized in one city, Virginia could boast of several towns of almost equal importance and equal social attractions: Williamsburg, Richmond, Fredericksburg, Alexandria, to which may be added Norfolk and Petersburg."

A consideration of the religious affiliations of the colonials should not be omitted from this account of Fredericksburg. There were several sects besides the Episcopalian which established themselves in the Fredericksburg area at an early date. These Episcopalians built a church about 1720. The Society for the Propagation of the Gospel in Foreign Parts contributed funds toward the erection of this church and helped in paying the salary of a minister. The St. George's Church was provided for at the time of the founding of Fredericksburg in 1727.

The Quakers were in this section of Virginia as early as 1657. The Records of this date refer to a Quaker settlement at "Croaton on the Rappahannock River." The Quakers led the fight for religious freedom during the first century of Virginia's history.

As early as 1650 Roman Catholics settled at Aquia, founding the first Roman Catholic colony in Virginia. Margaret and Giles Brent of Aquia won distinctive places in American history. The first is often referred to as "America's First Feminist" because she was the first woman to lead the fight for women's rights. Col. Giles Brent led the Staffordians in the Bacon Rebellion, whose leader, Nathaniel Bacon, Wertenbaker refers to as "The Torchbearer of the Revolution."

Jews had undoubtedly come to the upper Rappahannock in early days. Ezekiel Levy's name appears on the rolls of the Masonic Lodge of Fredericksburg in 1755. Michael Gratz of Philadelphia had a counting house in Fredericksburg in 1777. Gratz helped to finance several members of the Virginia delegation at the Continental Congress in Philadelphia and engaged in business partnerships with many leaders of the Fredericksburg area.

The Presbyterians took a leading part in affairs of Virginia and of the area about Fredericksburg. They were pioneers in establishing institutions of learning not only in New Jersey, but also in Virginia. Princeton was attended by many from the Rappahannock.

The Baptists established several churches in the Fredericksburg

vicinity; the first was perhaps the Waller Church, organized in 1769. Their contribution to the cause of religious liberty was very important.

The Methodists entered the Fredericksburg scene toward the close of the Revolution. They suffered some persecution in the fight for religious freedom.

The people of the Fredericksburg neighborhood played a significant role in the westward movement. Alexander Spotswood led the way in his transmontane journey across the Blue Ridge in 1716. The men of this area were among the earliest explorers of the Kentucky and Ohio countries. Thomas Walker has already been mentioned in this connection. Men of this locality organized the Ohio Company and took the leading part in promoting its interests. Christopher Gist and George Rogers Clark were early pioneer surveyors of the Ohio and Kentucky countries. Joist Hite and Robert McKay of Falmouth and Fredericksburg, obtained a grant of 120,000 acres in the Shenandoah Valley in 1732, the earliest grant west of the Blue Ridge Mountains. Men from the Rappahannock Valley may be credited with initiating and promoting the early settlement of the West.

The same may be said about Fredericksburg with respect to the Revolutionary War. The men of this area were leaders in initiating the War for Independence. At Fredericksburg were formulated on June 1, 1774, the now famous Fredericksburg Resolutions which ended with these words: "God save the liberties of America." On June 24, 1774, the Spotsylvania Resolutions were drawn up. Even before this the citizens of this section had drafted the Westmoreland Resolutions protesting the Stamp Act. People of this neighborhood were the moving spirit of the Revolution. John Fiske says that "Formal defiance came first from Virginia." Men like Richard Henry Lee, George Washington, George Mason, James Madison, played significant parts in the struggle for independence.

Fredericksburg was the arsenal, storehouse, recruiting center, for a large portion of the Continental armies. The Public Manufactory of Arms was established at Fredericksburg. The Hunter Iron Works was most important. James Mercer described Fredericksburg's importance during the Revolution in these words: "There is not in this State a place more deserving of public mention than this Town and its appendage Mr. Hunter's Iron Works From Mr. Hunter's Works every Camp Kettle has been supplied for the Continental & all other Troops employed in this State or to the Southward this year"

Attention must also be given to the influence of this community upon American history. Its story, in this respect, should begin with the native tribes of Indians. No accurate estimate of their contribution can be made. The winning and settling of these parts by the pioneers is just

as difficult to measure. Spotswood's influence on the westward movement and his pioneering in the iron industry are a little easier to examine but must remain unmeasured. How shall we evaluate the contributions of figures like George Rogers Clark, John Paul Jones, Dr. Thomas Walker, or organizations like the Ohio Company, in estimating the influence of this part of Virginia upon the West? When we consider the Revolution we cannot measure the influence of men from this section in the Continental Congress, nor tell how great the military contribution of this area was to the struggle for independence. It is still more difficult, perhaps even impossible, to say how much the writings of the men of Fredericksburg have meant to our Nation's history. Without attempting any of these impossibilities, we quote from a letter from the dean of all American historians, Charles Beard. In his letter to the present writer concerning the influence of men of the Fredericksburg area upon American thought, he says:

"Expressing a worthwhile opinion on the great personalities mentioned in your letter is indeed beyond my poor powers. What a list! All superlatives pale in any attempt at a brief estimate. Whole volumes are needed to tell the truth about them (if 'the' truth is not beyond human minds).

"As to John Taylor, additional studies have confirmed the judgment which I rendered years ago. [Referring to his opinion which he expressed in the article in the *Dictionary of American Biography* on John Taylor's 'An Inquiry into the Principles & Policy of the Government of the United States.'] As I search my mind, I am inclined to the opinion that Madison exerted more influence on my studies of American history when I began. I am inclined to place John Adams second, and John Taylor third. Yet such assignment of 'weights' is dubious. Nor must I leave out Jefferson. At all events, apart from John Adams, it has been four or five Virginian men whom you mention, to whom I am most indebted for guidance in my studies of American history during 'the heroic age' of our national life. With them, however, I must associate Jefferson. Moreover, as I continue my studies of American institutions, I am constantly recurring to Washington, Madison, Taylor, Mason, and other great Virginians and wondering how they would view the personalities and tendencies of these times."

In conclusion, it has been shown by this dissertation that Fredericksburg was the principal seat of government, learning, church, theater, and sports of northern Virginia, and that it was an important center of commerce, business, and social life. It was the residence of the professional classes—ministers, doctors, lawyers, teachers, merchants—and a center of interest for the planters who maintained close relations with it. It has also been shown that its population exceeded five thousand, and was heterogeneous; that the cultural and business outlook of the

upper classes was cosmopolitan; that their contacts and interests were world-wide; and that the town possessed an air of cosmopolitanism.

It is reasonable to conclude that towns throughout the colonies were likewise cosmopolitan and flourished in the southern colonies as well as in the northern.

THE INDUCTION OF NEW TEACHERS

by BLAKE SMITH ROOT*

THE PROBLEM

This study is concerned with the induction of new teachers in public elementary and secondary schools. By the term "induction" is meant the in-service preparation needed to enable a new teacher to undertake his initial assignments, and to make a successful adjustment to the school and community. The term "new teacher" is applied to the beginning teacher who is assuming instructional duties for the first time as well as to the experienced teacher who has obtained an assignment in a new school situation.

The study examines the needs of teachers in new school situations and the status of current induction practices. Suggestions concerning the planning, execution, and evaluation of an effective induction program are drawn from the findings. Among the questions considered are:

1. What is the nature of the administrative activity termed "teacher induction"?
2. What are the relationships between the induction of new teachers and the other supervisory programs of the school?
3. What are the initial orientation and induction needs of teachers in new school situations?
4. What basic aims establish the framework of a good induction program and what outcomes may be expected?
5. What are the current induction practices of certain selected schools? Considering the knowledges, skills, attitudes, and understandings, most commonly needed by new teachers, which practices are most effective in contributing to the rapid adjustment of teachers to new school situations?
6. Considering the needs of new teachers and the resources for their training, what management principles govern the planning, execution, and evaluation of an induction program.

The study was premised upon the belief that too little is being done to help new teachers to adjust to new school situations, with a consequent loss of teaching efficiency and not infrequently the loss of the new teachers themselves.

Since no comprehensive attack on the problem of teacher-induction was found in the literature, this study was undertaken in the hope that it would provide a synthesis of the concepts concerning the nature of teacher-induction and the problems involved in the administration of effective programs.

* B.S. 1927, Monmouth College; A.M. 1931, University of Illinois; Ed.D. conferred November 11, 1948.

PROCEDURE

In addition to a review of the literature, information was gathered through individual and group interviews and the use of a questionnaire.

The periodical literature was found to be a more fruitful source of information than books and pamphlets. Administrative handbooks were found helpful in determining practices. Management practices in government and industry were reviewed for purposes of comparison. Several unpublished graduate studies were located.

Group interviews involving modified committee procedures were used to identify the needs of new teachers in specific situations. Initial interviews were used to identify major categories of needs. From these a check list was devised for use in subsequent group interviews. The data gathered was checked by means of individual interviews and a questionnaire.

Subsequent to the committee activity, a questionnaire was developed for the purpose of obtaining information about current induction practices in selected schools throughout the country. It was mailed to 248 school administrators in the 48 states and the District of Columbia.

Completed questionnaires were received from 199 administrators including 103 secondary school principals, 84 elementary school principals, and 12 other administrative officers. This constituted an 80 per cent return from those to whom questionnaires were sent. From 2 to 8 replies were received from each of 47 states and the District of Columbia.

Communities represented ranged in size from one with a population of 1200 people to large metropolitan areas such as New York City. Thirty-nine per cent of the communities were within a population range of 10,000 to 50,000 people.

FINDINGS

The Nature and Status of Teacher-Induction.—Teacher-induction is identified as one of the most important supervisory functions of school administrators. It is apparent that most, but not all, of the induction activities considered in this study constitute the initial part of the in-service training program of the school. While the school principal is recognized as the person most responsible for the success of an induction program, the support and the aid of the superintendent, the school board, and state department of education are essential. In the long run, their attitudes determine what most of the principals do about the problem.

The status of teacher-induction and the need of maintaining an effective program is established by the limitations of pre-service preparation, the inadequate supply of competent teachers, the administrative responsibility for teacher failure, the high rate of teacher turnover, and

the low teacher morale. In addition, lack of sufficient attention to the problem of teacher-induction has accompanied the comparatively slow development and adoption of forward-looking principles and practices in the field of public school personnel administration. These limitations have resulted in a lowering of teaching efficiency and consequent losses in the educational growth of children. This study concludes that these losses can be considerably reduced by means of an effective induction program.

Since the induction program is the initial and one of the most important parts of the total supervisory program, an analysis is made of the relationships of teacher-induction to other activities which contribute to teacher growth. These include pre-service training of teachers and aspects of in-service training programs, such as institutes, workshops, and internships. The induction program is held to be especially important, because at no other time do administrators have a greater opportunity to provide leadership and to establish the right kind of supervisory relationships.

The need for a well integrated teacher-induction program, then, originates from two sources. In the first place there are factors in the teaching environment which make it desirable from an administrative point of view to establish such a program. Secondly, new teachers have a need for job information and assistance in adjusting to the school and community.

Teacher-Induction Needs.—It is obvious that an effective induction program should be premised upon a clear analysis of the needs of new teachers. In the early part of this study it was thought that an extensive investigation might be required to identify significant induction needs. However, it soon became apparent that basic induction needs are much the same for all new teachers regardless of varying school situations.

While committee participants were in general agreement as to what the most important induction needs were, it was recognized that the experience, background, and personality of new teachers, as well as factors in a particular school environment, determine the emphasis to be placed upon specific induction needs and practices. For example, new teachers who obtain employment within their own community need less help in adjusting to community situations than do teachers from outside the community.

As a part of this study, 24 categories of teacher induction needs, including 39 sub-points have been identified and ranked in order of importance by committee participants. Of the categories listed, the most important needs are related to the instructional program, the educational philosophy of the school and community, certain administrative procedures and school routines, matters of personnel policy, class sched-

ules and assignments, school organization, and home room duties. Needs which were regarded as requiring the least attention in the induction program were those involving community adjustments, certain information about students, acquaintance with the school library, and the extra-class program.

General aims and specific objectives of the teacher induction program were drawn from the analysis of new teacher needs and the review of the literature. The study defines the over-all purpose of teacher-induction as that of establishing an environment and learning situation which provides for the preliminary, optimal adjustment of new teachers, so that maximum efficiency is achieved with a minimum expenditure of time and effort.

Teachers are of the opinion that their own induction was too much a "trial and error" process, although many reported that considerable induction help was received. New teachers want to be treated with respect in the new school situation and be made to feel that they "really belong". The practice of assigning to new teachers tasks that experienced teachers do not like is wasteful from the standpoint of supervision.

The time at which induction information should be given and the means of providing the information were also considered. It was found that some needs can be met at a specific time by a particular activity or device, but that others, such as an understanding of the philosophy of the school, presented a problem of continuous training. Suggestions relating to the means of providing information were used as a basis for the questionnaire study of current induction practices.

It is concluded that school administrators should have little trouble in identifying the particular needs of their new staff members if a planned approach is made to the problem.

Current Induction Practices.—The major task, then, is not the discovery of teacher needs but the development of administrative practices to meet the needs. The literature, when reviewed in retrospect, is somewhat misleading. Great emphasis is placed upon the need for an induction program, and the reader is left with the feeling that little is being done in the way of teacher induction. However, the study reveals a surprising number of induction practices in use in the 199 schools which responded to a request for information about their practices. Of the 36 practices listed on the questionnaire, an average of 20 practices are now being used. In addition, administrators indicated that other practices would be used when needed. While these findings are based on returns from selected schools, it appears that the problem of teacher induction is receiving more attention than is indicated by the literature.

The analysis of the data obtained from the questionnaire study reveals significant information about induction practices not previously reported

in the literature. It is apparent that certain induction activities are virtually standard practice in well administered schools, since at least eleven practices are being used currently by 80 per cent of the 199 schools. These practices in order of greatest frequency of use are:

- Individual conferences with the principal prior to beginning the school year
- Introducing new teachers to the physical working environment with opportunity to work in the classroom.
- Making available materials used by a predecessor
- Orientation concerning curriculum materials
- Individual conferences with the principal following class visits
- Using the employing interview for orientation purposes
- Providing housing aid as needed
- Issuing and interpreting handbooks and administrative bulletins
- Interim correspondence after hiring
- Faculty meetings of all teachers prior to the opening of school
- Tour of the school plant

The extent to which the 36 induction practices are used ranges from 2 per cent to 95 per cent. However, when practices now used are combined with practices not in use, but judged good to do in certain circumstances, the range is from 60 per cent to 99 per cent. This difference in range is largely due to two causes. In the first place, administrators who have only one or two new teachers do not use group induction activities, but they would use them if several new teachers were involved. In the second place, some administrators recognized the merit of a practice but felt that local administrative difficulties hindered its use.

When the applicability of different induction practices to varying school situations is considered, the study clearly shows that, in general, a large number of practices are common to all situations. Some variability does exist between practices used in elementary and secondary schools, and between schools in large and small communities, but for most of the practices the variability is surprisingly small. For example, the rank order coefficient of correlation between the use of the 36 induction practices in elementary and secondary schools is .93 with a probable error of $\pm .02$.

With a few exceptions induction practices do not present major administrative difficulties. The practice considered most difficult was regarded as involving unusual administrative difficulties by only 27 per cent of the administrators. Practices used most frequently were judged the least difficult administratively, while those used most infrequently were considered the most difficult.

One of the most significant weaknesses of induction programs is connected with failure to integrate the numerous induction activities into a well planned and comprehensive program which is effectively coordinated with the total supervisory program of the school. More integration with the continuing in-service training program is desirable.

Recommendations for a Teacher-Induction Program.—A well planned

teacher-induction program should be established as the initial part of the supervisory and in-service training program of the school. The program should grow out of the needs of new teachers in new school situations. It should be designed to produce maximum teacher adjustment and teaching efficiency in the shortest possible time.

The following principles are intended to serve as a guide in the development of a good induction program.

1. *Planning the program*

An effective induction program is so well planned that aid on essential matters of concern to new teachers is not left to chance.

Induction aims should grow out of a careful diagnosis of new teacher needs, as they exist in connection with the work to be performed in a given school and community.

The induction program should be designed and geared to the differing needs of individual teachers. For example, different emphasis should be placed upon activities planned for experienced teachers new to a situation and inexperienced teachers new to a situation.

The class schedule and initial work assignments should be planned, as far as possible, in accordance with the teacher's qualifications and apparent capacities as revealed by her personal history and previous experience.

2. *Executing the program*

In city schools, the principal is primarily responsible for the success of the induction program. Delegated responsibilities and the role of other participants should be clearly defined.

The principal should seek the cooperation and help of administrative officers at both the local and state levels. The responsibility for good induction programs must be shared by all administrators affecting the work of the schools.

The methods of induction should be adapted to the needs of individual teachers in a particular school situation.

All information essential to initial job assignments should be provided at the proper time. On the other hand care should be taken not to "swamp" the new teacher with information which can be given as effectively at a later time.

Induction information should be presented by the person or persons best qualified to impart it.

Group induction activities should be utilized as fully as possible in order to save the time of the school staff.

The induction program is the initial part of the continuing in-service training program of the school. Therefore, it should be coordinated with the continuing in-service training program for all teachers.

The induction program of a given school should be coordinated with the induction activities of the city or county system of which it is a part.

As a rule, induction effort should concentrate on preparing the new teacher for the application of general skills to a specific situation. Basic information and skills should be a part of the pre-service training of the teacher.

A good induction program should involve a variety of instruments, e.g.—pre-school workshops, group induction conferences, faculty meetings, individual conferences with supervisors, handbooks, administrative bulletins, and courses of study. New teachers should be specifically instructed in the use of printed materials.

3. Evaluating the program

Each new teacher has a right to a stated policy which indicates what is expected of him in the way of work standards and the manner in which his work is to be evaluated.

A good induction program should improve the instruction in the school.

A good induction program is recognized as beneficial by the teachers for whom it is provided. They recognize it as being purposeful, timely, authoritative, comprehensive, and administratively sound.

Evaluation of the program should be continuous.

THE EVALUATION OF AN IN-SERVICE TRAINING PROGRAM WITH SPECIAL REFERENCE TO THE TRAINING PROGRAM FOR SERVICE SCHOOL OFFICERS, UNITED STATES NAVY

by RALPH WINDSOR RUFFNER *

INTRODUCTION

This study is the evaluation of an in-service training program administered by a civilian educational institution for a military establishment. More specifically, it is the evaluation of the Training Program for Service School Officers, United States Navy. The program was conducted from June 30, 1947, through June 30, 1948, by The George Washington University in cooperation with the Bureau of Naval Personnel.

The study does two things: (1) it describes the program and (2) it evaluates the program. The description is based on official documents, materials and records produced for and by the program, and on notes kept by the writer. The evaluation is based on interpretation of data obtained through the use of questionnaires and rating scales, quantitative analysis of records, qualitative analysis of correspondence, direct observation, and interviews.

The study was undertaken for the following five major reasons:

1. To investigate a pattern of training that might have wide application for training activities in military, business, and industrial establishments.
2. To try out certain evaluation techniques that may be of use in other situations.
3. To supply recommendations and conclusions which may be of value to The George Washington University and to the Bureau of Naval Personnel in continuing the training program for the year 1948-49.
4. The evaluation of this program should be of interest to military establishments other than those of the Navy.
5. The evaluation serves as a report of the Training Program for Service School Officers, 1947-48, from The George Washington University to the Bureau of Naval Personnel.

DESCRIPTION OF THE TRAINING PROGRAM

Development and Overview.—Continuous training of all its personnel is a major concern of the United States Navy. Training activities of the Navy may be divided into two broad areas: (1) training of the individual—primarily under the direction of the Bureau of Naval Personnel (BUPERS) and (2) team training—primarily under the direc-

* A.B. 1915, University of Maryland; A.M. 1940, The George Washington University; Ed.D. conferred November 11, 1948.

tion of the Fleet. The Training Program for Service School Officers is concerned with the training responsibility of BUPERS.

In order that its training responsibility might be met, training activities were established to function under BUPERS. Various categories of schools were designated, and the Training Program was concerned, specifically, with Enlisted Class A, B, and C Schools, and with the Officer Engineering Schools.

Early in 1947, as a result of the visits of BUPERS representatives to schools in the field, the following training problem was identified: "How can service school administrators be given training in school administration?—Training that will present both applicable aspects of the best civilian practices in school administration and the most effective current Naval service school practices."

After identifying and studying the problem, and as a result of many preliminary conferences, BUPERS decided to ask The George Washington University to provide the training called for by the problem. Accordingly, a mutually agreeable contract was drawn up and signed on June 30, 1947. The program was conducted by the School of Education of the University working in cooperation with the Standards and Curriculum Division of the Bureau of Personnel, and was designed to achieve the following overall objectives:

1. To improve instruction through improvement of administration within the schools.

2. To develop a nucleus of trained school administrators.

3. To develop a manual for Navy school administrators.

The content or subject presented in the program was developed by the staff after visits to service schools and conferences with BUPERS representatives. Eight topics or areas were chosen and used throughout the year's training: The School Administrator, Learning, Supervision, Teaching, Motivation, Individual Differences, In-service Training, and The Administrative Conference. A text was written by the staff especially for the program titled, *School Administration: Principles and Procedures*.

With regard to form or organization, the Training Program was divided into three phases, as follows:

1. The Presentation Phase—a five-day conference for each of six groups of approximately fifty participants each. Two conferences were held in Washington, D. C., two in Great Lakes, Illinois, and two in San Diego, California.

2. The Application Phase—a twenty-week period following the presentation Phase during which time work sheet reports were sent by participants to the staff of the program. The reports were concerned with the application by participants of the Presentation Phase to their own work situations.

3. The Follow-up Phase—a second five-day conference for each of the six Presentation phase groups.

The Presentation Phase.—The objectives of the Presentation Phase were as follows:

1. To present certain selected principles and procedures of school administration to service school staff members.
2. To discuss these principles and procedures from the point of view of their application to service school situations.
3. To enable service school staff members to exchange on-the-job experiences.
4. To assist in the evaluation of the text prepared for the Training Program—*School Administration*.

To attain these objectives, the conference week was organized around a lecture-discussion pattern. Each of the five days in the conference week was divided into two three-hour blocks. These were used as follows:

1. First three-hour block—Introduction and Orientation.
2. Next eight three-hour blocks—For each of the eight periods:
 - (a) First hour—a lecture was given by a staff member on one of the eight content areas.
 - (b) Second hour—the conference group was divided into three smaller groups to discuss the lecture. The three group leaders were staff members.
 - (c) Third hour—the whole conference group reassembled for reports of small group discussions, general discussion, and summation.

3. Last three-hour block—Summary.

Each conference member was given a copy of *School Administration* and a *Conference Guide*. Mimeographed summaries were prepared for each of the eight lecture-discussion periods and distributed to all participants. Evaluation forms were prepared whereby members evaluated the conference.

The Application Phase.—The Application Phase was a twenty-week period following each Presentation Phase conference. During this phase work sheet reports were sent by participants to the staff of the program. This phase had the following objectives:

For each participant enrolled in the phase:

1. To apply the principles and procedures of school administration presented and discussed during the Presentation Phase to his own school situation in order to improve that situation.
2. To report to the staff of the Training Program the results of this application.

For the Training Program:

1. To keep the staff informed with regard to the application of the program to specific service situations.
2. To furnish the staff materials in the form of work sheet reports to be used during Follow-Up Phase conferences.

In order to assist participants with their reports, ten work sheet guides were prepared by the staff. These guides dealt with the following areas: School Organization and the Administrative Conference (three work sheets), The Overall Supervisory Plan, Improving the Working Environment, Individual Differences, The Interview, Motivation, In-service Training, and Induction Program for New Personnel.

Each work sheet guide requested the participant

1. To evaluate his existing school situation in the area concerned.
2. To make plans to improve the existing situation.
3. To carry out the plans for improvement.
4. To report on items (1), (2), and (3) to the staff of the program.

Participation in the Application Phase was voluntary, and those Presentation Phase members who desired to enroll were given enrollment cards and work sheets, 1, 2, and 3 at the last session of their Presentation Phase conference. Six weeks following enrollment, the remaining seven work sheets were sent to participants. Work sheet reports—requested on the basis of one every two weeks—were sent to the staff. They were then recorded, carefully read, commented upon in writing, and returned to the writers. After all ten reports were received from a participant, an evaluation form for the Application Phase was sent to him.

The Follow-up Phase.—The Follow-up Phase, the third and final phase of the Training Program, consisted of a second series of five-day conferences for each of the six Presentation Phase groups. The objectives of the phase were

1. To review the work done to date in the Training Program.
2. To discuss the content of the Training Program in the light of Application Phase experience.
3. To introduce Training Program members to the use of the small creative committee.
4. To prepare committee reports to supplement *School Administration*.
5. To summarize the total work of the Training Program.

The conference pattern was organized around creative committee work. Five or six committees were organized from the members of each conference. Committee areas or topics included administration (Service School Command, and the individual service school), supervision, induction of new personnel, motivation, individual differences, and Recruit Training Command problems.

Each conference day was divided into two three-hour blocks, dealing with the following activities:

1. First three-hour block—Orientation and Review.
2. Second three-hour block—First committee meeting for organization.
3. Five three-hour blocks—Each period was used as follows:
 - (a) First hour—a lecture was given by a staff member on committee work.
 - (b) Next two hours—meeting of each committee to deal with its topic.
4. One three-hour block—Interim committee reports.
5. Last three-hour session—Final committee reports to the conference.

The following materials were prepared for and used in each conference: a pre-conference orientation letter, a conference guide, a committee area guide for each committee area, original Application Phase work sheet reports for use as source materials, picture-posters of service school activities, guides for committee chairmen, lecture charts, and summaries of Presentation Phase general discussion sessions.

The pre-conference orientation letter was sent to all Presentation Phase members to orient them with regard to the Follow-up Phase conference, and to allow each member to indicate his choice of a committee area. Committee chairmen were selected prior to the opening of the conference, and were given training and orientation on the day preceding the first day of the conference.

During the conference week the staff carried out the following functions besides their regularly scheduled activities, conferences with chairmen, visits to all committee meetings—for observation and consultation, and conferences with individual conferees as requested.

Conference members were asked to evaluate the conference by use of a check list.

EVALUATION OF THE TRAINING PROGRAM

Evaluation of the Training Program is divided into two parts, (1) an evaluation of outcomes—the results of the training received, and (2) an evaluation of the means—the pattern and procedures used during the program. Three major questions are presented and answered in each part.

Outcomes: (1) Who Received the Training?—A grand total of 412 persons participated in at least one phase of the Training Program. Of the total of 412 participants, 294, or 71.3 per cent represented service school activities. Four different Service School Commands and 56 different service schools were represented. There were 85 persons among the 412 participants (20.6 per cent) who were in service school administrative billets. Although 28.7 per cent of the participants were not service school representatives, these members made definite con-

tributions to the program, and many of them may be assigned at some future date to service school activities.

Outcomes: (2) What Training Was Received?—Ideally, all members of the Training Program should have completed all three phases of the program. This was not the case. The following data indicate the extent of participation by four categories of personnel.

Personnel Category	Percentages Completing Various Phases			
	1	1-2	2	2-3
1. All Members	100.0	67.3	61.5	48.1
2. Non-Service School Personnel.....	100.0	37.2	33.0	9.3
3. Service School Personnel.....	100.0	79.6	73.1	63.6
4. Service School Administrative Personnel	100.0	80.0	75.3	67.1

In summary, 412 persons received at least one phase training. Of this total, 253 persons received two or more phases' training, and 138 persons completed the whole program.

Outcomes: (3) What Were the Specific Outcomes of This Training?—Specific outcomes of the training are listed under two headings: (1) in terms of individual members of the program and (2) in terms of the training activities represented. Eighty-eight specific outcomes are listed in the study under these two headings. Examples of outcomes listed in terms of the individual member are:

1. The training developed skills in group work, in the analysis of educational problems, in self-analysis for professional improvement, in the use of an educational vocabulary, and in evaluating and improving school situations.

2. The training provided educational information regarding principles and procedures of school administration—from civilian educators and from other Navy personnel engaged in training activities.

3. The training added to the understanding of professional limitations and the action needed to remove these limitations, of weak spots in training activities and corrective action needed, of the role of BUPERS in improving training activities, and of the content areas with which the course was concerned.

4. The training influenced the development of desirable attitudes towards learning experiences in general, the work of BUPERS, billet duties and responsibilities, self-improvement, and teaching.

Examples of specific outcomes in terms of the training activities represented are:

1. The existing organization was improved and the administrative conference was used successfully resulting in many general improvements.

2. Existing provisions for supervision were improved, including improvement of the working environment.

3. Existing provisions for individual differences were improved including extended and more effective use of the interview.

4. In-service training programs for staff members including induction programs for new personnel were improved.

5. Positive evidence was noted regarding improved staff morale, and increased interest by staff members in their duties.

6. Many schools reported the clarification of educational problems, the provision of a common medium to discuss them—an educational vocabulary, and the development of skills to use tools in solving these problems—the administrative conference and the creative committee.

Means: (1) How Effective Were the Patterns and Procedures of the Presentation Phase?—The patterns and procedures used throughout the Presentation Phase were essentially the same for all six conferences. This is to say that they stood the test of repeated performance with different groups. Following each conference, staff members held meetings to discuss their own observations and the evaluation forms filled out by the conference members. The decision was, in each case, to try to improve the weak spots noted, but to continue the pattern and procedures essentially as they were.

Thirty-two per cent of the comments from conferees indicated general approval of the pattern and procedures—although suggestions for improvement were requested on the evaluation form—ranging from 76.1 per cent for the conference materials to 11.8 per cent for the small discussion groups. Relatively speaking the following weak points may be pointed out: (1) group leader control of the small group discussions, (2) certain phases of the large group discussion periods, and (3) pre-conference orientation of conference members.

The phase attained its objectives: selected principles and procedures of school administration were presented and discussed from the point of view of their application to service school situations, conferees exchanged on-the-job experiences, and the text *School Administration* received overwhelming acceptance. The pattern and procedures of the Presentation Phase were very effective.

Means: (2) How Effective Were the Pattern and Procedures of the Application Phase?—Participation in the Application Phase was voluntary. Nevertheless, 65.8 per cent of the program members did participate, and 80.8 per cent of the service school personnel were enrolled. Also, despite their heavy work load and the necessity for filling in the work sheet reports largely on their own time, 41.7 per cent of all program members completed the phase. The percentage-completion figures were even higher for service school personnel—51.5 per cent, and for service school administrators—59 per cent. These percentages indicate effective organization and execution of the phase.

Only 3.8 per cent of the 1,730 reports sent in by members indicated that the work sheet guides were not applicable to the reporter's situation. The great majority of participants replied that work sheet reports

were processed quickly enough by the University staff. Staff comments on or about the reports were found generally helpful by 96.3 per cent of those who completed the phase. The average time required by the work sheets was not excessive. The work sheet guides satisfactorily covered the content of the program, indicating effective integration of the Presentation and Application Phases. About one-half of the completers reported that filling in the work sheets motivated them to more work in at least one work sheet area. Eighty per cent of the completers found the work sheets to be of considerable or some help, while only 9 per cent found them to be of little or no help. Finally, the completers reported that the work sheets were responsible for definite improvements by their activities in the ten areas covered by the reports—ranging from 62.7 per cent to 88.8 per cent for the ten areas.

Certain weak spots may be pointed out, among which are the following:

1. Although participation percentages were gratifying to the staff, it is felt that even more members might have participated in the phase.
2. Although 51 per cent of the service school members and 59 per cent of the service school administrators completed the phase, it is felt that these completion percentages might have been higher—particularly for the latter group.
3. When the top administrative officer in a service school activity did not participate in the phase, his staff members were handicapped (in varying degrees) in their participation.
4. Many participants felt that filling in the work sheets on their own time did not permit them to do as good a job as they wished.

The Application Phase attained its objectives. Those members who participated, and particularly those who completed the phase applied the material of the Presentation Phase to their own situations with resulting improvements in the great majority of cases. A total of 1,730 work sheet reports were sent in to the staff, and these reports kept the staff well informed regarding the progress of the phase. The reports also furnished the staff with source materials which were used during the Follow-up Phase.

Means: (3) How Effective Were the Patterns and Procedures of the Follow-up Phase?—Conferees evaluated the pattern and procedures of the Follow-up Phase by rating the attainment of objectives as listed on an evaluation sheet on a 4 (high)-3-2-1 (low) basis. The phase received an overall rating of 3.70. The fourteen objective-headings (major activities) were rated from 3.89 to 3.38, and may be divided into three groups: a "high" group, composed of those headings rated higher than the phase rating; a "middle group", composed of those headings rated about the same as the phase rating; and a "low" group, composed of those headings rated somewhat lower than the phase rating.

The headings in the "high" group, in order of rating, were: the work of the staff, the lectures, the final committee reports, the period devoted to an overview of the conference week, and the period devoted to a review of the Presentation and Application Phases.

The headings in the "middle" group, in order of rating, were: "The Conference Guide", the pre-conference orientation letter, the committee progress reports, the committee work in general, and the interim committee reports.

The four headings in the "low" group indicate relative weak spots in the pattern and procedures. These headings in order of rating were: the committee organization period, the "Committee Area Guide", the pre-conference meeting of committee chairmen, and the original work sheets used as source materials.

The phase attained its overall objectives: work done to date in the Training Program was reviewed, content of the Training Program was discussed in light of Application Phase experience, conferees were given experience in creative committee work, thirty-four written committee reports were prepared which will be used to supplement *School Administration*, and the total work of the Training Program was summarized and officially concluded.

CONCLUSIONS AND RECOMMENDATIONS

Specific Recommendations for the Training Program for Service School Officers.—At the time of the writing of this study, plans were under way to continue the Training Program for 1948-49. Based on the material presented and evaluated in this study, the following specific recommendations are made relative to the continuation of the Training Program:

1. The 1948-49 program should be designed primarily for replacements—for new personnel coming into service school administrative billets.
2. The initial phase of the 1948-49 program should occur in so far as it is practical before the new administrators report to their assignments.
3. Service School Command personnel in administrative billets should be included in the program.
4. The program need not be limited to service school administrative personnel, if space remains after these personnel are assigned.
5. Training Program members should participate in so far as it is practical in all phases of the training.

6. The content of the 1947-48 program, as originally developed and subsequently added to, should be satisfactory for the 1948-49 program.
7. The text, *School Administration*, should prove satisfactory for continuing use as a text.
8. The committee reports of the Follow-up Phase should be used to develop pamphlets to supplement *School Administration*.
9. The other materials developed and used during the 1947-48 program should be of value for the 1948-49 program.
10. The organization of the program into three phases proved to be very effective, and it is recommended that similar organization be used in the continuation of the program.
11. The Presentation Phase should follow a lecture-discussion pattern, supplemented if possible by laboratory activities.
12. The Application Phase should be based on the theory that Presentation Phase content be applied to actual service school situations, and reports be made of the results of the application.
13. The Follow-up Phase may take the form of a second series of conferences, or, if possible, may take the form of a schedule of visits by staff members to program members on the job.
14. Specific recommendations regarding each phase:
 - (a) *Presentation Phase*.—Devise preconference orientation procedures, include information about small group discussion procedure during the first day's orientation period, the lecturers should use 1947-48 materials to illustrate their lectures with service school examples, small group discussion leaders should receive refresher training, large group discussion periods should be carefully planned, and an effective evaluation form should be devised whereby conferees may evaluate the phase.
 - (b) *Application Phase*.—A definite work sheet report schedule should be set up and followed, all staff members should participate in commenting on the work sheet reports, and time for Application Phase work by members should be allotted during the regular work week.
 - (c) *The Follow-Up Phase*.—Committee chairmen should be carefully chosen and trained before the conference begins, conference guides and committee guides should be revised in the light of 1947-48 experience; if work sheet reports are used as source materials they should be annotated and their most effective use described to conferees, and if committee observers are used, they should be given some training before taking over their duties.

GENERAL RECOMMENDATIONS AND CONCLUSIONS

1. The School of Education of a university can provide valuable service to training activities in business, industrial, and military establishments through assisting those responsible for staff development with in-service training programs.
2. The general pattern of presentation, application, and follow-up may be used effectively in organizing and executing in-service training programs.
3. The conference pattern may be effectively used in in-service training, especially when relatively large groups of people are to be trained.
4. Correspondence type of instruction may be effectively used in in-service training, especially when:
 - (a) It is preceded and followed by conference work.
 - (b) Participants apply content to their own work situations and report on the application.
 - (c) Regular working time is allotted for the work.
5. Creative committee work may be used effectively in an in-service training program, especially as part of a general conference pattern.

FINAL STATEMENT

The findings of this study indicate that the major objectives of the Training Program for Service School Officers, 1947-48, were achieved. Administration and instruction were improved in the schools represented by staff members who took part in the training. Two hundred and ninety-four service school staff members received training, and this total included eighty-five staff members in administrative billets. A manual for Navy school administrators was prepared and effectively used throughout the year's work.

But this year's work is just a beginning. As Admiral T. S. Sprague wrote in a memorandum prepared for the opening of the program:

"... the increasing demands of the Fleet for highly trained personnel make it necessary that those engaged in Naval training continually strive to develop more effective training procedures."

It is now up to the "nucleus of trained school administrators" to carry on, to continually strive to develop more effective training procedures for their Navy schools.